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THE

ORCHID ALBUM,

MISSOURI
BOTANICAL
GARDEN

COMPRISING

COLOURED FIGURES AND DESCRIPTIONS

OF

NEW, RARE, AND BEAUTIFUL

ORCHIDACEOUS PLANTS.

CONDUCTED BY

ROBERT WARNER, F.L.S., F.R.H.S.,
AUTHOR OF SELECT ORCHIDACEOUS PLANTS,

AND

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AUTHOR OF THE ORCHID GROWERS' MANUAL, ETC.

THE BOTANICAL DESCRIPTIONS BY THOMAS MOORE F.L.S., F.R.H.S.,
CURATOR OF THE CHELSEA BOTANIC GARDEN.

THE COLOURED FIGURES BY JOHN NUGENT FITCH, F.L.S.

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1884

DEDICATED

BY SPECIAL PERMISSION

TO

H.R.H. The Princess of Wales,

BY

HER ROYAL HIGHNESS'

Very obedient and humble Servants,

ROBERT WARNER,
BENJAMIN S. WILLIAMS

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J.Nugent Fitch del.et lith.

LÆLIA ELEGANS PRASIATA.

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LÆLIA ELEGANS PRASIATA.

[Plate 97.]

Native of Brazil.

Epiphytal. *Stems* erect, clustered, terete, clavate, jointed, about one and a half foot high. *Leaves* in pairs at the top of the stems, linear-oblong, obtuse, coriaceous, deep green. *Racemes* short, erect, six to eight-flowered, issuing from an oblong purplish compressed bract, the peduncles and pedicels green. *Flowers* large and showy, five inches across; *sepals* about three inches long, oblanceolate, the edges revolute and the tips recurved, of a light magenta-rose, paler towards the base, having a greenish tint along the centre, and a distinct flush of purple; *petals* obovate-lanceolate, acute, an inch broad, of a deeper rose than the sepals, and having a flush of green, the margins undulated; *lip* three-lobed, the lateral lobes elongate, white, rolled over the column, tinted with rose at the edges, and of a bright rosy crimson at the tips; the front lobe an inch and three-fourths in breadth, transversely-reniform, crenate and much undulated at the margin, of a rich magenta-crimson, traversed by veins of deeper crimson, the veins most evident in the centre where the ground coolur is paler; disk smooth. *Column* clavate, marginate, enclosed.

Lælia elegans prasiata, *Reichenbach fil., in litteris,* 1863; *Id. Botanische Zeitung, October,* 1864; *Id. Gardeners' Chronicle,* n.s., xix., 11 (sub-variety).

The Lælias form a glorious class of Orchids, including many noble species which certainly rank amongst the most beautiful of the whole family. Their flowers embrace nearly every shade of colour, including bright orange, yellow, pure white, magenta, rose, and many others. They are all extremely beautiful, notwithstanding that some of them produce large flowers, while those of others are much smaller, for the latter are often of a more brilliant colour than the larger kinds, which is an ample compensation. The whole family, without exception, is well worth growing.

The particular form we now bring before the notice of our readers is a very handsome variety, and when first bloomed had the flowers *prasiato aspersis;* it is of the same type as *Lælia Turnerii,* of which there is a grand plate in the first series of Mr. Warner's *Select Orchidaceous Plants.* Our illustration was prepared from a drawing taken from a specimen, bearing two spikes, and which produced six beautiful flowers on each, in the select collection of Baron Schröder, The Dell, Staines.

Lælia elegans prasiata is an evergreen plant, producing stems or pseudobulbs about eighteen inches high, furnished with two leaves which are six inches long and of a dark green colour. It produces its flowers from the new bulb when it has completed its growth, and they issue from a sheath, six or more together. The sepals and petals are of a dull magenta, tinged with green, the lip being of a bright magenta, while the external part of the lateral lobes, where they roll inwards over

the column, is white. The flowers are very fragrant, the scent being a mixture of "May" and "Gardenia."

This plant blooms during September and October, and lasts in beauty for about three weeks. We find it requires the same treatment as *Lælia purpurata*. It should, moreover, be grown in similar material, namely, good fibrous peat, with perfect drainage, and as much light as possible. Mr. Ballantyne, the gardener at the Dell, cultivates this with his Cattleyas, which are well grown, there being among them some wonderful specimens, many having over a hundred pseudobulbs. When in bloom, these plants are quite worth a journey to see.

The Manchester Whitsuntide Exhibition of 1883 was a great success. Over £2,000 was taken at the gates. We generally make a point of jotting down a few notes concerning this show, as its chief attraction consists of the Orchids, in which of course our readers are most interested. Although the show had lost several of its largest supporters, such as Mr. Percival, Mr. Hardy, and the late R. B. Dodgson, Esq., of Blackburn, there were others who exhibited in strong force. We will mention a few of the most noteworthy of the plants. O. Schneider, Esq., showed a very fine collection, including *Cattleya Mendelii*, a grand variety with sixteen flowers; also a splendid plant of *C. Mossiæ*, with over twenty beautiful flowers; and *Dendrobium Devonianum*, a splendid plant with its long stems bearing over two hundred flowers; in front of this was *Odontoglossum Pescatorei*, with fourteen spikes of its lovely white and spotted flowers; and a fine *Lælia purpurata*, with its rosy sepals and petals, and bright crimson-purple lip. Dr. Ainsworth exhibited some very fine specimens of *Dendrobium thyrsiflorum*, with fifteen of its beautiful spikes; the pure white *Phalænopsis amabilis*, a splendid mass with twelve spikes and a hundred flowers; a wonderful specimen of *Vanda suavis*, with twelve spikes; *Phalænopsis grandiflora*, with more than fifty flowers; and *Aërides Fieldingii*, a fine specimen with five spikes and six branches. Mrs. Leach, of Gorse Hall, Stalybridge, exhibited six good plants, among them was a fine *Cattleya Mossiæ*, with a splendid dark lip; also *Dendrobium nobile*, fine, and the beautiful *Odontoglossum Hallii*. There were some fine specimens exhibited from the collection of W. Leach, Esq., Fallowfield, among which was a wonderful plant of *Dendrobium Falconeri*, with two hundred flowers; next to this was the curious *Cypripedium caudatum*, with six spikes, also *Aërides crassifolium*, and other good Orchids. Mr. Upjohn exhibited a wonderful *Vanda tricolor*, the finest-grown plant we have seen, with five spikes. Mr. Hodgkinson exhibited a very fine variety of *Vanda suavis*, with three spikes. Mr. James, of Norwood, Surrey, exhibited two fine collections, including a wonderful plant of *Dendrobium Paxtoni; Cattleya Mendelii*, with ten flowers; *Masdevallia Harryana*, a fine variety; a good plant of *Dendrobium Jamesianum*, with thirty-six flowers, and many other fine specimens. Mr. Cypher, of Cheltenham, also showed some good plants, among which we remarked a fine *Dendrobium Freemanii*, with one hundred flowers of a beautiful colour; *D. Devonianum*, with two hundred of its lovely blossoms; also some other good plants. Messrs. Ireland & Thomson, of Edinburgh, also exhibited a very fine collection of cut Orchids that was much admired.—B. S. W.

J.Nugent Fitch del.et lith.

CORYANTHES MACULATA PUNCTATA.

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CORYANTHES MACULATA PUNCTATA.

[Plate 98.]

Native of Demerara.

Epiphytal. *Pseudobulbs* ovate or sometimes narrowed and elongate, furrowed, two to three inches long, tapering upwards, clustered. *Leaves* two, from the apex of each pseudobulb, broadly lanceolate, plicate, submembranaceous, light green, about a foot long. *Scape* radical, pendent, one and a half foot long, brownish purple, bearing a *raceme* of several flowers. *Bracts* large, membranaceous, ovate-lanceolate, two or three sheathing ones on the scape, and one at the base of each pedicel. *Flowers* large, very peculiar in form, ochraceous yellow, curiously spotted and blotched with deep wine-purple; *sepals* conduplicate flexuose, membranaceous, the dorsal one small, oblong, the lateral ones broad, at first spreading, but at length becoming reflexed and resembling bats' wings, pale ochraceous yellow, the surface thickly spotted with small dots of deep wine-purple; *petals* oblong, erect, twisted, much smaller than the sepals, of the same colour, but having the spots larger; *lip* stipitate, continuous with the base of the column, cup-shaped, having a large helmet-shaped pedunculate appendage, the cup yellowish, the appendage creamy white, spotted and blotched on both surfaces with deep wine-purple, the purple colour almost covering the anterior side. *Column* terete, recurved, two horned at the base, two winged.

Coryanthes maculata punctata, *Lindley, Folia Orchidacea*, art. *Coryanthes*, No. 2.; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematica*, vi., 598.

Coryanthes punctata, *Lindley, Botanical Register*, t. 1793.

Coryanthes is a most curious and interesting genus of Orchids, and but few species have yet come under our notice. We have long known *C. macrantha* and *C. speciosa*, which are two distinct kinds. That which we now figure is much like *C. macrantha*, with the exception that the crimson colouring is darker. Our drawing was taken from a fine specimen in the superb collection of W. McDonald, Esq., Woodlands, Perth, who is a great admirer of good Orchids.

Coryanthes maculata punctata is an evergreen plant, with short, thick pseudobulbs about two inches in height, bearing light green foliage about a foot in height. The flower spike proceeds from the base of the pseudobulbs, several flowers being produced together on the same scape; they are yellow, spotted with crimson. The plant, which blooms during October and November lasts but a few days in flower; it is, however, well worth growing on account of the extraordinary form of its flowers. Before they open they remind one of a Chinese foot; after opening they form a kind of cup having above it a pair of fleshy horns from which a liquid is distilled which drops into the cup.

These plants come from Demerara. They are found growing on the outside branches of trees, where they get all the light possible. They will thrive on blocks of wood, also in baskets or pots. If grown on blocks they require some good live sphagnum moss about their roots; if in baskets or pots, a little rough fibrous peat and charcoal mixed together will suit them, but they must have ample drainage as they require a good supply of water in their growing season. When at rest they should get just enough water to keep the bulbs in a plump state. We have found the warm end of the Cattleya house to suit them. These Coryanths require a good deal of care to grow them well. We used, some years ago, to grow fine specimens and exhibit them, and they were always a source of great attraction.

They are propagated by dividing the plants, leaving several old bulbs at the back of the leading one. This should be done just after they have started into growth. They must be kept free from insects which are apt to injure the young leaves as they are thin in texture. Sometimes thrips and red spider will attack them, but they must be quickly exterminated.

LÆLIA PURPURATA.—A very fine spike of flower of this most beautiful and chaste Orchid was received by us from J. Buchanan, Esq., of Edinburgh. This plant has its sepals and petals quite flat, and holds them so till the last, whereas many of the purpuratas curl up a little after they have been open a short time. The sepals and petals are white, with a broad finely-coloured dark lip, of which the front portion is rich crimson-magenta, and the basal part paler and distinctly veined, the throat being yellow, beautifully veined with dark crimson. Each flower measured as much as seven inches across, the petals being two inches across. Mr. Grossart, the gardener, says, the flowers show well up above the foliage, which gives it a most striking appearance among the other varieties.—B. S. W.

J.Nugent Fitch del.et lith.

DENDROBIUM FARMERII AUREUM.

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DENDROBIUM FARMERII AUREUM.

[Plate 99.]

Native of India: Moulmein.

Epiphytal. *Stems* short, clavate, with a thickened bulbiform base, jointed, deeply furrowed, the internodes almost wholly covered by membranaceous sheaths, bearing leaves at the apex. *Leaves* two or four, lanceolate, ovate, coriaceous, dark shining green. *Racemes* many-flowered, drooping, lateral, proceeding from near the top of the stem, just beneath the leaves, the pale green pedicels with a small concave ovate bract at their base. *Flowers* bright golden yellow, showy; *sepals* oblong-ovate, bluntish, spreading, of a clear bright golden yellow; *petals* of the same colour, much broader, roundish-ovate, almost meeting at the edges; *lip* concave, roundish, subunguiculate, with a small blunt spur behind, pubescent on the upper surface, and denticulate at the edge, of a deep rich orange-yellow, which contrasts agreeably with the lighter and brighter yellow of the outer perianth segments. *Column* small, pale yellow.

Dendrobium Farmerii aureum, *supra.*

Here we have a most charming Orchid, and one that blooms very freely on short bulbs or stems. The plant is of less vigorous habit than certain other of the varieties of *D. Farmerii*, some of which grow as vigorously as *D. densiflorum*. Indeed, excepting by cultivators who are well acquainted with the plants, it is a most difficult matter to distinguish them readily from each other. The plant we now describe and illustrate is a yellow-flowered variety of *D. Farmerii*, the typical form of which has pinkish sepals and petals and a rich yellow lip. It is a very lovely species. Our drawing of this rare variety was taken from a plant in the Victoria Nursery, Upper Holloway, where we have had the different forms flowering during the months of May and June, many of them growing on a back wall on blocks of wood, and producing a fine effect with their spikes of yellow blossoms hanging over the foliage. Even when grown in pots or baskets they have a pleasing effect, **and take but little space.**

Dendrobium Farmerii aureum is a compact evergreen species from Moulmein. It grows about ten inches high, with dark green shining foliage. The flower spikes proceed from the top of the old bulb stems, and are sometimes ten inches in length. The sepals and petals are bright golden yellow, and the lip rich orange. The plant blooms during March, April, and May, and lasts about a fortnight in perfection.

We have found the plants do well in the India House, under the same treatment as *D. Farmerii* itself. If grown in a pot give good drainage by filling the pot

three parts full with crocks, adding a little rough fibrous peat and a small quantity of charcoal mixed with it, so that the plants may be well elevated above the rim, and thus be enabled to throw out their roots freely, while at the same time the water may pass off quickly. If they are grown in baskets, the same treatment may be given. A little water at the roots will suffice, as these plants do not like too much moisture. The soil must be kept moist during the growing season, but in their resting season only just sufficient must be given to keep their bulbs and leaves plump. As soon as they begin to show flower more water may be supplied in order to encourage the spikes to come out more freely. If grown on a block a little live sphagnum moss should be placed about their roots, and this must be kept moist during the growing season. When they are at rest a little less quantity will do until they commence to show their flowers.

Mr. Warner's Orchids.—Those who wish to see Odontoglossums and Masdevallias grown and flowered as they should be, should pay a visit to the renowned collection of Orchids at Broomfield, Chelmsford. After having inspected the principal collections both in Europe and America, we have not the slightest hesitation in saying that this is one of the finest displays of flowering Orchids ever brought together. These Odontoglossums are grown by the thousand, Mr. Warner having sent a collector to New Grenada, a few years ago, to select and bring home the best varieties. This has resulted in getting together a collection of about 12,000 Odontoglots, comprising all the best species and varieties known to cultivators. On entering the Odontoglossum house we were enchanted with the sight before us. Let the reader imagine a large house sixty feet long by sixteen feet wide, with a centre and two side tables, literally crammed with flowering Orchids, consisting of hundreds of spikes of Odontoglossums and Masdevallias, intermixed with a profusion of the beautiful *Epidendrum vitellinum majus* and other Orchids, and he will form some idea of the magnitude of this show. Leaving the Odontoglossum house we entered the Masdevallia house, where there was also a grand display, among which we noticed particularly *M. Harryana atrosanguinea*, a fine form with large crimson-magenta flowers, measuring two and a half inches long by two inches broad; *M. Dennisoniana*, with richly coloured flowers, two and a half by two and a quarter inches; and *M. Harryana longiflora*, a variety with immense flowers, having blossoms three inches by two and a half of a rosy magenta colour, faintly striped with a darker tint of the same colour. In addition to these, there was another house about forty feet long filled with flowering Odontoglossums, Masdevallias, and other things, a perfect fairyland as viewed from the door. Leaving this house, we came to the Cattleya house where, although the collection of these plants is not large, there are nevertheless some fine varieties in bloom, more especially of *Lælia purpurata* and the ever varying *Cattleya Mossiæ*. Altogether we were highly delighted with our visit, and greatly appreciated the hospitality of our host.—H. W.

LYCASTE HARRISONIÆ EBURNEA

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LYCASTE HARRISONIÆ EBURNEA.

[Plate 100.]

Native of Brazil.

Epiphytal. *Pseudobulbs* ovate, tetragonal, furrowed, monophyllous, the young ones sheathed with brown membranaceous bracts. *Leaves* broadly lanceolate acute, narrowed to the base, strongly ribbed or plicate, rigid, dark green. *Raceme* two-flowered, radical, erect, shorter than the leaves, the peduncle furnished with appressed bracts. *Flowers* large and attractive, nearly three inches across; *sepals* ivory-white, waxy in texture; dorsal one oblong, obtuse, broader upwards, somewhat incurved, the lateral ones spreading horizontally, falcato-oblong, the lower side produced so as to cover the spur of the lip; *petals* obovate, about as long as the dorsal sepal, of an ivory-white wax-like appearance and stout fleshy texture; *lip* large, erect, narrowed at the base where it is enclosed by the lateral sepals, broader upwards, three-lobed: lateral lobes incurved and meeting the column, which they exceed, the margin with one or two broadish lobes primrose-yellow, covered with strongly marked forked reddish purple veins: front lobe smaller, oblong obtuse, recurved, undulated, white, with a few finer purple veins at the edge; *disk* with a broad orange-yellow hairy crest, which is blunt and much thickened in front. *Column* adnate for much of its length, and meeting the base of all the petals and sepals, the free portion incurved, semiterete.

Lycaste Harrisoniæ eburnea, *Moore, supra.*

We trust that the illustration we have now the pleasure to submit to our readers, may be the means of inducing Orchid Growers to take up the cultivation of the plants of this family for decorative purposes more than is done at the present time. They produce fine handsome flowers, and such kinds as *L. Skinneri* are most useful for winter decoration. There is a fine plate representing *L. Skinneri* in Mr. Warner's *Select Orchidaceous Plants*, in which the light and dark coloured varieties are well shown. There are among them many distinct and varied colours, and they are all free blooming, lasting for six weeks in beauty; indeed, when grown in a cool house, they continue still longer in perfection. Some persons object to the Lycastes on account of the stiff rigid form of their flowers, while other cultivators selecting the best forms and varieties, find in them a source of much gratification. W. Lee, Esq., of Leatherhead, has some wonderful varieties of the *L. Skinneri* type, some of them dark red, others mauve-pink or pure white, and there are besides various other shades of colour; these all blooming at the same time, and intermixed with plants of graceful foliage, produce the decorative effect that one looks for in our Orchid houses.

The plant our plate represents belongs to a different species, *L. Harrisoniæ*, one of the older of cultivated Orchids. The drawing was taken from a specimen

bloomed and exhibited by ourselves at the Royal Horticultural Society's Show at South Kensington in April last, and which was deservedly awarded a First Class Certificate for its ivory white flowers with a slight pencilling of purple on the lip. The typical *L. Harrisoniæ* although one of the oldest inhabitants of our stoves is well worth cultivating more extensively; it has creamy white flowers, with a purplish lilac lip, the flowers being larger, and the plant more robust in growth than in the present variety, *eburnea*, which, however, blooms more freely and retains the purity of its whiteness for some time. There are some yellow-flowered species, such as *L. cruenta* and *L. aromatica*, which are worth growing for their colour and fragrance.

Lycaste Harrisoniæ eburnea is an evergreen plant eight inches in height, with deep green foliage; the flower spikes proceed from the base of the pseudobulb and are about six inches in length. The sepals and petals are of pure ivory-white, and the lip is also white faintly striped with crimson; the throat yellow, striped with purplish red. It blooms during April and May, and lasts for several weeks in flower.

We have found this plant do well at the cool end of the Cattleya house. A cooler situation even than this will do. It must be potted in rough fibrous peat, with good drainage, and must be well elevated above the pot so that its roots can work about the soil. A little charcoal intermixed with the peat helps to keep the soil open; moreover, the roots like to cling to it, and it prevents the material from becoming sour. This plant will also do well in a basket suspended from the roof, as it likes a considerable amount of light to ripen its bulbs and foliage; this causes it to grow stronger and flower more freely. It requires the same treatment as *L. Skinneri* as regards watering during the growing season, but when at rest must be kept drier.

Orchids at Upper Holloway.—We were much gratified, when recently calling at the Victoria Nursery, to see the excellent condition of the Orchids generally, and the fine display of flowers. Some of Mr. Williams' Orchid houses are provided with a vestibule, which, from its contiguity to the outer atmosphere and the frequently open doorway, is cooler and drier than the growing houses attached, and into these the blooming plants are brought for display, with the result that they are thus kept much longer in a state of beauty. The stock here is large and in first-rate condition, as, indeed, one would expect it to be in the hands of so skilful a grower. The plan of shading adopted in this establishment is much to be commended; the canvas, which is of a special construction, is so fixed that it is kept quite clear of the glass, and a space is thus provided through which the air is constantly passing. In the case of cool Orchids this is of great importance, as it acts so as to moderate any excess of summer heat. We were much pleased to see that Mr. Williams' large specimen plants, now in flower, are legitimately "grown on" and not "made up" as has lately been much the fashion, a practice which, it may be hoped, the rule now adopted at some exhibitions, to the effect that "made up" plants will disqualify, will put an end to. Many fine species were in bloom, but as the object of this note is not to make a catalogue of them, we will only add that the Cattleyas, Vandas, Odontoglots, and Masdevallias were blooming very freely, and were represented by many finely grown specimens.—T. M.

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B.S.Williams Publr

ODONTOGLOSSUM LEEANUM.

[Plate 101.]

Native of New Grenada.

Epiphytal. *Pseudobulbs* ovate obtuse, nearly two inches long, pea-green. compressed, diphyllous. *Leaves* oblong-ligulate, acute, channelled towards the base. *Scape* radical, produced in the axil of a leaf investing the base of the pseudobulb. and terminating in an erect many-flowered raceme, furnished with small ovate bracts at the base of the pedicels, and having a few more elongated bracts below. *Flowers* stellate, about three and a half inches across, handsomely spotted; *sepals* slightly wavy, lanceolate, attenuately acuminate, narrowed to the base, clear bright yellow, deeper at the tips, dotted all over with rather small brownish crimson spots. which are here and there somewhat larger, those towards the apical part being less crowded by the smaller spots, the dorsal sepal with three red lines at the base: *petals* similar in form and colour, the larger less crowded spots being more evident. and the base marked by three lines of red; *lip* ovate-lanceolate, about two-thirds the length of the sepals, attenuated at the apex, bright yellow, deeper at the base. where there are a few red streaks, and with a large brownish crimson blotch towards the front, and a few marginal spots, the disk appressed to the column at the base, and bearing a thick linear keel, which extends into two rhomboidal toothletted lamellæ. *Column* sulphur-yellow, with a few reddish-brown spots. and a pair of falcate subulate ears or wings at the apex.

Odontoglossum Leeanum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xvii. 525; xix. 694.

This is one of the most distinct Odontoglots that has come under our notice: and its prettily-spotted flowers are so attractive that every grower will be anxious to procure it. We believe, however, that the plant from which our drawing was made, is the only one known at the present time. It is in the possession of W. Lee, Esq., Downside, Leatherhead, in whose honour it has been named. and who is very fortunate in being the possessor of such a gem. There is little doubt of its being a natural hybrid. The plant was imported along with many others. none of which, however, have produced flowers approaching it in beauty.

Odontoglossum Leeanum is of evergreen habit, with pseudobulbs about two inches high, of a pea-green colour. The leaves also are of a lively light green colour. and about ten inches in length. The sepals and petals are of a pale yellow. margined with orange, and spotted with rich red-brown, the lip yellow, also spotted with the same colour. It blooms during the winter months, and lasts for several weeks in beauty, forming a most effective contrast to the white flowers of *O. Alexandræ* and *O. Pescatorei*. The plant requires the same treatment as the two species just named, and blooms in the same way.

We paid a visit to the Downside collection of Orchids in June of the present year, and were greatly surprised to see the progress that had been made as regards the erection of new houses for each section of Orchids, and the pains and trouble which had been taken to make each house complete as regards ventilation, stages, and tanks for the reception of rain-water; even the paths are made to do their part towards the growth of the plants, as well as to provide for the comfort of those who have to do the work, as well as of the visitors, who may walk on them without wetting their feet, a paving brick with a scored surface being used, so that the water thrown down remains in the depressions of the surface, and gives off by evaporation a continuous supply of moisture to the atmosphere, which is what the plants require in the summer season when in full growth.

There was one long house filled with Masdevallias in grand beauty—a glorious sight, embracing all the best species and varieties that can be procured. Close by was the Odontoglossum house, with the plants on the side tables one mass of bloom; and besides these, there was a fine lot of Odontoglots, including some good forms, blooming in full beauty, in another house. Here also was the finest Cattleya house we have yet seen, there being many hundreds of flowers, consisting of *Cattleya Mossiæ*, of which there were some of the grandest varieties we have met with; also some fine examples of *C. Warnerii*, rich in colour, intermixed with *C. Mendelii* in variety, *C. gigas*, with its bold richly-coloured flowers, and many fine specimens of *Lælia purpurata* in full beauty. In the same house was a fine lot of specimen Vandas, placed on the centre table, they were in fine health, and with their graceful foliage towering above them, and their distinctly-coloured flowers, altogether formed a pleasing contrast to the Cattleyas.

The India house was gay with species of *Aërides* and *Saccolabium*, among which were some very rare ones, too numerous to mention. There was also a fine house devoted to *Phalænopsis*, as well as one for Dendrobes, many of which were in bloom. Next to these was a structure devoted to a good collection of *Lycaste Skinneri*, and other kinds that require the same treatment. Much credit is due to Mr. Lee's gardener, Mr. Woolford, for the great interest he takes in maintaining the health of the plants under his care.

Mr. Percival's Cattleyas.—We have received from R. P. Percival, Esq., of Southport, a box containing a fine series of *Cattleya Mossiæ*, *C. Mendelii*, &c. Mr. Percival informs us that he has now (June) as many as three hundred and forty-six blossoms of *C. Mossiæ* open; and taking the flowers sent us as a sample, they are of a very fine strain, and must present a gorgeous *coup d'œil* in the Orchid house. Accompanying the Cattleyas was a grand spike of *Odontoglossum vexillarium splendens*, with very large flowers fine in form and deep in colour.—B. S. W.

Hagemann Frères del. et lith.

PLEIONE HUMILIS TRICOLOR.

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PLEIONE HUMILIS TRICOLOR.

[Plate 102.]

Native of the Indian Alps.

Epiphytal. *Pseudobulbs* lagæniform or bottle-shaped, that is, ovate with the neck narrowed, at the flowering period leafless. *Leaves* produced subsequently to the flowers, oblong-oblanceolate, five-nerved, membranaceo-herbaceous, of a dark green colour, paler beneath, the base enclosed in a tubular sheath. *Peduncles* short, one-flowered, furnished with sheathing bracts, the upper of which is oblong-lanceolate, petaloid, longer than the ovary, and becoming at length contracted, leaving the pedunele exposed. *Flowers* proportionately large, showy, four inches across and three inches deep, produced before the leaves are developed; *sepals* narrow-lanceolate, spreading, and of a delicate blush or pale rosy purple tint; *petals* similar in form and colour, recurved; *lip* large, obovate, emarginate, closely frilled at the edge, and distinctly fringed with long hair-like teeth, sulphur-yellow, the central portion having about six longitudinal fimbriated veins, alternating with a corresponding number of pale tawny brown lines, the broad margin covered by irregular divergent bars and blotches of the same colour. *Column* free, erect, winged.

Pleione humilis tricolor, *Reichenbach fil. MS.*

Pleione is a small genus, an offshoot of *Cœlogyne*, distinguished, perhaps, mainly by habit, which we are pleased to bring before our readers, since the species form a charming group of dwarf-growing free-blooming plants, easy of cultivation, and blossoming at a time—autumn and winter—when flowers are most useful. They may, indeed, be grown on a shelf in any warm house. Several of them are very beautiful in colour, such as *P. Wallichiana*, which is of a deep rose; *P. Reichenbachiana*, lilac-purple and magenta; *P. maculata*, white and crimson; *P. lagenaria*, mauve and white; besides which there are several others of almost equal beauty. In those we have here mentioned, however, we get a charming contrast, and they flower about the same time. In their native country the Pleiones are called Indian Crocuses, a very appropriate name for them, as they are low-growing and destitute of leaves when flowering. In our houses this apparent defect can be met by intermixing them amongst Ferns, setting their flowers just above, and the Ferns as a carpet or border for them. The variety of *P. humilis*, figured in the accompanying plate, is a most beautiful one, which was bloomed at the Victoria and Paradise Nurseries, and was named by Professor Reichenbach. It is quite distinct from those already mentioned, and it blooms very freely in winter, which makes it a desirable plant for cultivation.

Pleione humilis tricolor is of dwarf deciduous habit, with dark green foliage, attaining about six inches high, which is cast off after the growth is completed: these leaves have about five principal nerves, with five intermediate ones extending from the base to the apex. The flowers proceed from the base of the curious flask-shaped pseudobulbs, and grow on scapes about three inches high, the flowers being large in proportion to their stature. The sepals and petals are of a pale rose colour, while the lip is pale yellow, distinctly spotted with dull brownish orange. The blossoms are produced during January and February, and last about two or three weeks in beauty. This plant is best grown in a pot with good drainage, of which, in the first place, the pots should be half filled; then mix some good fibrous loam and peat, with a little sphagnum moss and sand, and use this as a compost. They must have a good supply of water during the growing season, but when the pseudobulbs have matured their growth, they must be kept nearly dry until they show signs of flowering, when a little moisture will help them to swell. After the blossoms have faded, they require potting into fresh material, when they will soon begin to grow, and send new roots into the fresh soil. We always pot them afresh every year, since they lose all their roots. If requisite, several bulbs may be placed in a pot on the top of the soil. They must never be over-potted, indeed, we think they look better in small pots.

All the kinds we have mentioned require the same treatment, and will do well in a cool part of the East India house. We grow them in the Cattleya house, but they must be near the glass, and shaded from the bright sun, which soon affects their foliage, and if this happens, the bulbs will not be so plump and vigorous, and the result will be that the flowers will not be either so fine, or so numerous, or so well-coloured.

VANDA TERES.—We recently received from J. Broome, Esq., Wood Lawn, Didsbury, Manchester, some fine spikes of blossoms of this most beautiful *Vanda*, and were surprised to hear that the plant had borne over two hundred and fifty flowers. What a glorious spectacle! On one of the spikes there were five of these charming flowers, each measuring three inches across. We saw this plant last year, and a most wonderful old specimen it is. It is trained cylindrically, and forms a grand massive plant, curious, withal, on account of its terete dark green climbing stems, thinly clothed with leaves, which are also terete, and of the same colour. No doubt it is one of the most distinct-looking of Orchids, and one, moreover, that few growers succeed in flowering well. It requires to be grown vigorously, with all the light that can be given to it in the growing season, during which period it should be well supplied with moisture. When at rest in winter, it should have very little water, but should receive all the light and sun that can be secured for it, in order to cause the stems to ripen. When it shows signs of flowering, water may be supplied, in order to induce the plant to throw out its flower-spikes more freely and with greater vigour.—B. S. W.

J.Nugent Fitch del.et lit.

DENDROBIUM DRACONIS.

B.S.Williams Publ.r

DENDROBIUM DRACONIS.

[Plate 103.]

Native of Moulmein, Siam, and Cochin China.

Epiphytal. *Stems* robust, jointed, the internodes nearly covered by the sheathing base of the leaves, striate, nigro-hirsute, about a foot in height. *Leaves* leathery, dark green, oblong-lanceolate, about three inches long, obliquely notched at the apex. *Flowers* in short three to five-flowered racemes, terminal or borne in the axils of the upper leaves, conspicuous from their fine ivory-white colour and distinct eye; *sepals* lanceolate, acute, entire, spreading, the dorsal one erect; *petals* also pure white, broader, ovate-lanceolate, spreading, the tips often recurved: *lip* three-lobed, the lateral lobes short, roundish-ovate, white, pencilled with cinnabar-red, the middle lobe three times longer, elongate-oblong, apiculate, the veins thickened, the margins crenulate and undulated, the disk minutely downy, and like the lateral lobes marked with a tuft of longitudinal cinnabar-red lines; *spur* funnel-shaped, horizontal, about equalling the sepals. *Column* short, greenish.

Dendrobium Draconis, *Reichenbach fil.*, *Botanische Zeitung*, 1862, 214: *Id.*, *Gardeners' Chronicle*, n.s., xix., 598.

Dendrobium eburneum, *Parish MS.*; *Bateman*, in *Botanical Magazine*, t. 5459; *Id.*, *Second Century of Orchidaceous Plants*, t. 466; *André*, *Revue Horticole*, 1883, 132, with coloured plate.

Some confusion in reference to the name of this handsome Dendrobe has arisen in gardens where it has for about twenty years been known as *Dendrobium eburneum*. This name, a MS. one of the Rev. C. P. S. Parish, was attached to it in the *Botanical Magazine* for 1864, and by mistake attributed to Professor Reichenbach, who had published the name *D. Draconis* for the same plant in the *Botanische Zeitung* for 1862. The name *Draconis*, of course, takes precedence.

The plant which we now introduce to our readers under its correct name, is a most beautiful Indian Dendrobe, one which is quite distinct in growth, belonging to the nigro-hirsute group of which *Dendrobium formosum* is an example; it is, however, smaller, and a much better grower, and, in fact, more closely resembles *D. infundibulum* and *D. Jamesianum*, both in its habit and its flowers, which are produced very freely, as may be seen from the faithful representation of the plant and flowers which our artist has made. The drawing was taken from a specimen which bloomed in the Victoria and Paradise Nurseries, one of a large importation we received last year as *D. eburneum*, the true name of which, on submitting flowers to Professor Reichenbach, we learned to be *D. Draconis*. We have subsequently bloomed others with much larger flowers. It will become a most

valuable plant for decoration, as its blossoms last so long after being cut, and being white it will be always in request.

Dendrobium Draconis grows about a foot in height. It is an evergreen plant, with dark hairy stems, producing deep green foliage and short racemes of flowers. The sepals and petals are pure ivory-white, and the lip is also white, with a bright vermilion throat. It flowers in May, June, and July, and lasts about six weeks.

This plant does well in pans or pots suspended from the roof of the East India house, near the light, as like all the Dendrobes it requires all the light possible in order to ripen its stems, but the burning sun must be kept from it. We have grown it in the stove hanging under a plant of *Stephanotis*, where there is little shade from the foliage of the Stephanotis, and with this treatment it has bloomed very freely. The best potting material for it consists of rough fibrous peat and sphagnum moss, with a liberal supply of water at the roots in the growing season. When the growth is completed give just enough to keep the stems in a plump state. It will grow either in pots or baskets suspended from the roof, and also on blocks of wood with live sphagnum moss about the roots, but under the latter circumstances when in vigorous growth the plants will require more water and attention.

Orchids at Sandringham, the residence of H.R.H. the Prince of Wales.—A short time since we paid a visit to Mr. Penny to see the Orchids at Sandringham, and were much struck with the many fine specimens we saw in bloom, the mass of flowers on some of them, and the colour and size of the blossoms; they gave one the idea of being well cared for. Mr. Penny is quite an enthusiast among good plants, and appears to have selected some most beautiful species and varieties of the Orchid family, especially among the forms of *Odontoglossum Alexandræ* and *O. Pescatorei*, the fine drooping spikes of which are cut and sent to the Princess, who is a great admirer of them as decorations, intermixed with the bright *Epidendrum vitellinum majus* and *Masdevallias*, of which there is here also a well-grown set of plants. The *Epidendrum vitellinum majus* was conspicuous for its large spikes of bright orange-scarlet flowers; and we saw some splendid varieties of *Masdevallia*, with fine bright colours and large flowers. We noticed some well-grown plants of *Odontoglossum vexillarium*, with the flowers five inches across, and good in colour; *Cattleya Mossiæ* in good bloom, some of the flowers measuring eight inches across, of fine substance, shape, and colour; fine plants of *C. Mendelii* and *C. gigas*: some good plants of *Lælia anceps*, promising well for bloom in the autumn; and well-grown plants of *L. anceps Dawsoni*. This choice collection includes many other good Orchids grown for the purpose of cutting and used for decorating the mansion. The great aim of Mr. Penny is to grow those kinds that are most useful and lasting for that purpose. We quite fall in with him in this respect, as there are no flowers that are better adapted for decorative purposes than those Orchids which last long after being cut.—B. S. W.

J. Nugent Fitch del. et lith

ONCIDIUM FORBESII.

B.S. Williams' Publ.

ONCIDIUM FORBESII.

[Plate 104.]

Native of Brazil.

Epiphytal. *Pseudobulbs* oblong obtuse, compressed, sulcate, two inches long, of a dull brownish green, each bearing one leaf from the apex. *Leaves* lanceolate acute, leathery, eight to ten inches long. *Scape* radical, bearing a many-flowered panicle. *Flowers* large, numerous, very showy, measuring about two and a half inches in both directions, handsomely marked; *sepals* obovate, recurved, about an inch long, deep chestnut brown, with indistinct transverse bands and marginal indications of yellow, the lateral ones connate; *petals* larger, about an inch and a half long, and an inch and a quarter wide, roundish-obovate, the margin undulate, the base suddenly narrowed into a claw, the central parts wholly deep glossy chestnut-red, the edge for about a quarter of an inch in width yellow, closely marked by short irregular transverse bars of chestnut-red; *lip* with a longish narrow claw, and large transversely reniform deeply bilobed front segment, an inch and three fourths broad, which is coloured like the petals, the claw spotted with yellow and red, crested, the crests usually consisting of five rugged equidistant warts, the two middle of which are sometimes wanting. *Column* with small angulate wings, banded with lines of violet.

Oncidium Forbesii, *Hooker, Botanical Magazine*, t. 3705; *Lindley, Folia Orchidacea*, art. *Oncidium*, No. 60; *Williams, Orchid Grower's Manual*, 5 ed., 254.

The genus *Oncidium* is a very large one, and there are many species well known in cultivation, but the one we now illustrate belongs to a section in which there are few that are so distinct in colour. The flowers are not so large as in *O. crispum*, of which there are many distinct varieties, differing in size and colour—variations which often depend on the vigour of the plants. The same may be said of *O. Forbesii*, the stronger the bulbs the finer the blossoms. Our sketch was taken from a well-grown plant in the collection of E. Bonny, Esq., Downs Park Road, Hackney, who is forming a choice collection of Orchids.

Oncidium Forbesii is an evergreen species, with pseudobulbs of a greenish brown colour; the foliage is of a dark green, and the flowers are chestnut-brown, with the sepals and petals irregularly margined with bright lemon-yellow. It blooms at different times of the year, and lasts for several weeks in perfection. We find the plants do well in small pans or baskets, and also on blocks of wood. When grown in pans or baskets we have found them grow freely in good fibrous peat, with pieces of charcoal on the top of the peat, as they like to work their roots in among the charcoal, and should have plenty of drainage, and but very little peat earth. When cultivated on blocks they require more water in the growing than in the resting season.

These plants are not long-lived under our artificial treatment. There is something wanted that we do not or cannot supply, and hence it is difficult to keep them for any long period in a thriving condition. They seem, indeed, to wear themselves out by over-flowering or other causes which are very difficult to find out. The same thing happens in the case of some other Orchids. The bulbs of these plants should, if possible, be kept from shrivelling. They often seem inclined to shrivel after they have bloomed freely, and sometimes they lose their roots, especially when they have their flower-spikes left on too long. If the plant is not in a vigorous condition, it should not be allowed to bloom. We find they do best at the coolest end of the Cattleya house, kept as near to the glass as possible, but shaded from the hot sun, with sufficient water to keep them moist during the growing season.

Insects should be assiduously kept in check, for cleanliness is a great point in the culture of all Orchids. The plants are subject to the attacks of white scale and thrips. In all cases every effort should be made to keep the roots of the plants from being eaten off, as this would soon cause the bulbs to shrivel and the plants to dwindle away.

Mr. Bull's Exhibition of Orchids.—We have been particularly pleased with this grand Exhibition. We thus see what the perseverance, courage, and enterprise of one man can do in bringing together a magnificent show of these gorgeous flowers for the gratification of the public—a show which enables them without any personal inconvenience to gaze upon and admire the wonderful floral products of distant lands. Indeed, even if the visitors to Mr. Bull's exhibition had travelled to their native habitats, they could not have seen the plants under the same advantages, for many of them grow on high trees and rocks almost out of sight, and the different genera are nowhere to be found associated, except artificially, as Mr. Bull has them in his Orchid house. There in the month of June we saw some thousands of blossoms of different kinds of *Cattleya*, *Odontoglossum*, *Oncidium*, *Lælia*, *Vanda*, *Masdevallia*, *Anguloa*, *Epidendrum*, *Sobralia*, *Cypripedium*, *Aërides*, *Saccolabium*, *Dendrobium*, *Phajus*, *Cœlogyne*, *Brassia*, *Calanthe*, *Chysis*, *Cymbidium*, *Disa*, *Lycaste*, *Maxillaria*, *Phalænopsis*, *Sophronitis*, *Thunia*, and various other genera, groups of each kind being in many cases arranged in masses of different colours; the whole being intermixed with Ferns, Palms, and other fine foliaged plants, the combined effect was grand in the extreme—as those persons who know Orchids will readily imagine, while those who are not acquainted with their varied forms and lovely colours would not possibly be able to form any idea of the wonderful display of beauty produced by such an arrangement of such materials. We often see when there are Orchids at Flower Shows that the visitors flock around them, admiring their beauties of form and colour, but in the flower tent such a glorious and gorgeous effect as that produced by Mr. Bull's display is never realized. We could say much more in respect to this exhibition, but space will not permit.—B. S. W.

MASDEVALLIA HARRYANA ATROSANGUINEA

MASDEVALLIA HARRYANA ATROSANGUINEA.

[Plate 105.]

Native of New Grenada.

Epiphytal. *Stems* slender, short, tufted. *Leaves* persistent, leathery in texture, with a nerveless elongate oblong-spathulate obtuse or somewhat acute blade, which is channelled at the base, keeled behind, of a dark green colour, narrowed downwards into a short petiole, three to four inches long, grooved in front, and invested at the base by long membranous brownish sheaths. *Scape* erect, about a foot high, striately pencilled with purple, furnished with a few appressed sheathing bracts, bearing a solitary flower at the top. *Flowers* richly-coloured and strikingly handsome; *tube* a quarter of an inch wide and three-quarters of an inch long, dull orange-yellow stained with rosy purple in front, the mouth more closed than in some other forms; *dorsal sepal* upwards of two inches long, narrow nearly to the base, filiform upwards; *lateral sepals* deflexed, broadly and obliquely falcate-lanceolate, acuminate, two and a half inches long, and nearly an inch wide, of a rich glowing crimson flushed with magenta; *petals* and *lip* small, hidden at the base of the tube.

Masdevallia Harryana atrosanguinea, *Hort. Williams.*

Of the genus *Masdevallia* a few years ago there were but a very limited number of species known in cultivation, but it is now becoming a very comprehensive one, thanks to the perseverance of our energetic collectors, who have striven hard to bring the plants home, and have in a great measure succeeded, although with many of them the task of importation has been very difficult.

The variety we now bring before our readers is one of the best forms of the *Masdevallia Harryana* group. The figure was taken from a fine plant in the collection of R. Warner, Esq., Broomfield, who is a most successful grower of *Masdevallias*, and blooms them with fine flowers and brilliant colours. They are cultivated in pits after they have bloomed in summer, and in autumn are brought back into the Odontoglossum house, where they complete their growth and bloom in spring. They require rough fibrous peat and sphagnum moss, and a good supply of water nearly all the year round. They must never get dry, as they are found in shady places, where the atmosphere is always moist. We find them to succeed well with the same treatment as *Odontoglossum Alexandræ*, but not in so cool a temperature as some growers keep these plants in. They do not, however, like to be kept too close, so that a little air must always be given, avoiding cold draughts, which are injurious to all Orchids, whether grown in cool or warm houses. The rule applies in this respect in both cases.

As regards shading none of these plants like the hot sun, but they need all the light that can be given them, without exposing them to bright sunshine. The

blinds ought never to be let down when there is no sun, as the shade will draw them up dwindling and weakly, whereas if they have plenty of light they grow robust, and bring better flowers of a finer colour. This is the case with those at Broomfield, as Mr. Warner uses a very thin shading, and being in a fine open country place they get the pure air and clear light which is so beneficial to them. We believe the plants delight in this treatment, for we do not often see them doing so well in close places or in large towns as when they are located a few miles in the country. Most Orchids, indeed, thrive fairly well in towns, provided their wants are attended to, but the treatment of course should be different, as when grown in close places they require more ventilation, and all the light that can be secured, whereas when grown in a country place like Broomfield, observation and experience must decide as to the necessities of the locality and its surroundings. Even then the cultivator requires much practice and forethought, in order to produce the best results, especially as the temperature varies so much in different situations: for instance, when, on the one hand, the houses are on a high hill exposed to all weathers, or, on the other hand, are in a sheltered spot on a hill-side, or in a valley, in all which localities there will be experienced considerable differences of temperature and light. The sun, moreover, varies in power. Orchid growers should find out the peculiarities of place and climate in which they are placed, and act accordingly. This is one of the great secrets in the successful cultivation of all plants, not of Orchids only; and in order to ensure success, all these points must be studied and acted on. Many growers are fully aware of these requirements, but others are not so well informed.

Masdevallias are free-growing and free-rooting plants, and are easily increased by dividing the tufts just as they are about to make their growth; but it must not be expected that these will flower well until they get established, which they will do best in small pots after being divided. The second year the growth will be stronger, and as they get established larger pots may be given to them as required. Rough fibrous peat, sphagnum moss, and good drainage should be given, and the roots must be kept moist. Insects should be kept under. They are subject to attacks of green fly on their young growths and flower spikes, and of thrips on the leaves, which must be kept under, or the growth will be crippled.

T. Nugent Pinxt. del. et lith.

B.S. Williams Publr.

MAXILLARIA LUTEO-ALBA.

MAXILLARIA LUTEO-ALBA.

[Plate 106.]

Native of Colombia.

Epiphytal. *Pseudobulbs* large, about two and a half inches high, ovate obtuse, compressed, clustered, bearing at the apex a solitary leaf. *Leaves* stalked by the folding of the basal portion, oblong obtuse, a foot long or more, of a dark green colour. *Peduncles* radical, about half the length of the leaves, invested throughout with green sheathing bracts. *Flowers* large and peculiar in form, triangular in outline, and measuring about six inches from the top of the dorsal to the top of the lateral sepal, brownish externally; *dorsal sepal* linear-oblong, acute, three inches long, of a tawny yellow in the upper two-thirds of its length, the basal third white; *lateral sepals* of the same form, size, and colours, but twisted; *petals* two, erect, or somewhat projecting like two horns, ovate oblong, about half as long as the sepals, white at the base, with a few splashes of purple, yellow at the tip, with a blotch of pale brown of about equal size between; *lip* concave at the base, hairy, the margins undulated, three-lobed, the lobes obtuse, the lateral ones short, erect, yellow, striped with purple, the front one oblong, emarginate, recurved, the central portion convex, yellow, the margins paler, whitish. *Column* short, curved, creamy-white.

Maxillaria luteo-alba, *Lindley, Orchidaceæ Lindenianæ*, 20; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematiceæ*, vi., 516; *Id. Bonplandia*, ii., 15, 280.

The *Maxillarias* form a genus of Orchids not much appreciated by many growers, but of late there has been greater variety introduced among them, and they are becoming more popular in cultivation. Some of the better and more showy kinds are quite worth bringing before our readers, as they are free-growing plants, and most of them may be kept along with the cool Orchids.

Our figure of *Maxillaria luteo-alba* was taken from a plant we flowered at Holloway, and exhibited at one of the meetings of the Royal Horticultural Society, and for which we were awarded a First Class Certificate. We bloomed it many years ago, but we found that Orchid growers of the present day had many of them not seen it. We find it very useful for cutting purposes, as it flowers when the plants are small, which in our opinion is far better than making large specimens. When they get too large we cut them into several pieces, and grow them on again for blooming. The flowers having stalks about six inches long, may be cut without damaging the plants; they are extremely useful for button-hole bouquets, which are so much in request at the present day.

Maxillaria luteo-alba is an evergreen plant, with dark green foliage, and grows about eighteen inches high. The flowers proceed from the base of the pseudobulbs

at different times of the year. The sepals and petals are of a yellowish brown, and the lip yellow margined with white, the throat being striped with purple.

We find this species succeeds well in the cool house, with *Odontoglossum Alexandræ;* good fibrous peat suits it well, and it requires good drainage, with a liberal supply of water at the roots when it is in vigorous growth, as it is a free-rooting plant. After the growth is completed it should have only sufficient water to keep the pseudobulbs in a fresh plump state. A little shade is beneficial to the foliage of the plant in summer, but it should be grown as fully exposed to the light and as near to the glass as possible. Under this treatment it will be found to grow freely.

Renanthera Lowii.—This noble plant, also known as *Vanda Lowii*, has bloomed very finely in the collection of Baron Alphonse de Rothschild, at Ferrières, near Paris, this being the finest and best grown specimen we have seen. The main stem is about six feet high, with four growths from it, and every leaf is perfect, which is rarely the case. It bore eleven of its charming pendulous spikes or racemes of flowers, each spike extended to the length of nine feet; it had a noble appearance, with its reddish brown flowers, marked by irregular lines of greenish yellow; but the most curious part connected with the inflorescence of this plant is, that at the base it produces two blossoms of a tawny yellow, spotted with crimson, quite dissimilar from the others. The plant in question is a most remarkable one, and we may say that it is the finest specimen we have had the good fortune to behold. Great credit is due to Mr. Bergman for the production of such a specimen. The eleven spikes were, we understand, cut and sent to the Baroness in London. Gardening is well carried on at Ferrières; every department is well kept. There are many thousands of plants grown for purposes of decoration, which is kept up through the whole year. The mansion is a splendid structure, and the grounds are beautifully laid out, abounding with fine trees, and provided with lakes. In fact, it is one of the finest and best kept garden establishments we have seen, and great praise is due to those who have the management of it.—B. S. W

J. Nugent Fitch del. et lith.

SACCOLABIUM CURVIFOLIUM.

B.S. Williams Publr.

SACCOLABIUM CURVIFOLIUM.

[Plate 107.]

Native of India (Nepal and Birmah) and Ceylon.

Epiphytal. *Stem* dwarf, erect, densely leafy. *Leaves* crowded, distichous, linear, obliquely præmorse, with an acute apex, deflexed, channelled towards the base, pale green. *Racemes* erect from the upper axils, six inches long, densely flowered, the pedunceles pale green, bracteate, the pedicels red, six-angled, with a small ovate bracteole at the base. *Flowers* bright cinnabar-red, about an inch across, somewhat concave; *dorsal sepal* obovate, with a claw-like base, entire; *lateral sepals* somewhat broader at the base, and unequal-sided, all spreading, and of a uniform dense cinnabar-red; *petals* of the same form as the dorsal sepal, and of a similar tint of colour; *lip* with a cylindraceous obtuse spur over a quarter of an inch long, to the front side of which is attached a tongue-like linear lamina, truncately-emarginate at the apex, and having a central paler orange rib with two knobs at the top of the spur-tube; at the back of the spur are two short erect lobes, which are convex outwardly, and with a boss or protuberance on the inner surface; lip more orange than the sepals, the processes at the end of the spur yellow; *spur* of the same colour as the lip. *Column* short, deep red, semi-terete, the angle winged upwards. the anther-case tinted with violet.

Saccolabium curvifolium, *Lindley, Genera and Species of Orchidaceous Plants*, 222: *Bateman, Second Century of Orchidaceous Plants*, t. 130; *Lemaire, L'Illustration Horticole*, xii., t. 493.

Saccolabium miniatum, *Hooker, Botanical Magazine*, t. 5326—fide Bateman and Lemaire.

The *Saccolabiums* rank among the richest and most beautiful of the Orchid family; indeed, there are some magnificent species among those cultivated in our Orchid houses, which we hope to figure as time passes on. In the present illustration we introduce to our subscribers one of the small growing kinds, and one of the most distinct which we have seen as regards its habit and the colour of its flowers. Our figure was taken from a well-grown plant in the fine collection of W. Lee, Esq., Downside, Leatherhead, whom we are glad to observe is collecting and cultivating, along with the other East Indian kinds, the best species and varieties of this genus that can be obtained.

Saccolabium curvifolium is a dwarf and compact-growing evergreen plant, seldom seen more than a foot in height, with foliage of a light green colour, about four or five inches in length. It is a free-blooming kind, producing in May and June its bright orange-scarlet flowers, which continue in a fresh state for weeks. It is a very slow growing plant, and is seldom seen forming large specimens. Sometimes masses of it are imported, and these when set upon blocks of wood form charming

specimens. We saw one in the collection of the Comte de Germiny, in France, which was most beautiful—two feet in height, and well bloomed; this specimen, which was suspended from the roof of the house, had a remarkably fine effect.

This plant will do either on blocks of wood or in small suspended pans or baskets, so that it gets all the light possible. We find the best material to cultivate it in is sphagnum moss and a few pieces of charcoal intermixed, and it must have good drainage; it requires very little moss, as the roots like to enjoy the moist atmosphere of the house. The species is found growing on trees where the roots get the full benefit of the light and air; and if we imitate this as nearly as possible as regards their roots, we shall not go far wrong. Of course in our Orchid houses the treatment varies, and consequently the plant will require a little shade. The temperature required is that of the East India house.

Stanhopea gibbosa.—We have received from Alfred G. Wallis, Esq., of Balham, a grand spike of this great beauty. The plant, Mr. Wallis informs us, is growing in a wire basket about fifteen inches in diameter, and has borne five spikes of flowers, four of them with two flowers on a spike and one with one flower. The flowers are large, about six inches across; the petals are yellow, barred and blotched with crimson, the sepals assuming a darker tint of the same colour. Mr. Peacock was also successful in flowering this plant in June of the present year. It is a great pity Stanhopeas are not more popular among Orchid cultivators, as they form a very showy group of plants, their only drawback being the short time they continue in flower, and their very powerful and unpleasant odour.—B. S. W.

Disa grandiflora.—We received a wonderfully fine spike of this superb Orchid from Mr. Thomas Speed, the Duke of Devonshire's gardener, at Chatsworth. The spike was two feet six inches in length from the pot, and bore twelve flowers of large size and fine colour—a bright scarlet and crimson, the lip veined with pink, which gives a nice contrast. It is a most charming cool-house Orchid that every one may grow who has an ordinary greenhouse. Mr. Speed is a most successful cultivator of this fine plant. We saw the first small plant he had to begin with some years ago, and this plant has gone on improving, and many offshoots have been taken from it which have also made fine specimens. The *Disa* really seems to be no trouble to cultivate. The way in which Mr. Speed treats it is to grow it in a common greenhouse, where it gets plenty of fresh air and light, and here it requires nothing but plenty of water in the growing season. It is grown in sphagnum moss and rough fibrous peat and loam. There is no doubt that this plant does not get shifted from the place where it was found to do well. This is a great secret in plant culture. When a plant is found doing well, let it remain where it is, unless on trial another place is found to be equally suitable. Few people grow this *Disa* well. The reason is, that they keep it in too warm a house, and coddle it too much. If they would follow Mr. Speed's plan, there is no doubt they would succeed, if the plants are kept free from insects, and provided with sweet material about their roots.—B. S. W.

CATTLEYA TRIANÆ FORMOSA

CATTLEYA TRIANÆ FORMOSA.

[Plate 108.]

Native of Colombia.

Epiphytal. *Stems* oblong, club-shaped, furrowed, the lower parts enveloped in whitish membranaceous sheaths. *Leaves* solitary, coriaceous, ligulate-oblong, obtuse, emarginate, deep green. *Scape* two to three-flowered, proceeding from a terminal oblong compressed bract or sheath. *Flowers* large, six inches in depth and seven inches in breadth, richly coloured; *sepals* lanceolate, acute, about three-fourths of an inch broad, blush or very dilute rosy-purple; *petals* much broader—two and a half inches, having the margins much undulated, of the same blush or pallid purple hue as the sepals; *lip* well displayed, convolute at the base so as to enclose the column, and of a pallid purplish colour, the apical portion roundish, emarginate, and expanded, nearly two and a half inches across, the margin including the portion surrounding the throat, very much undulated so as to form a crenate-lobate frill, the surface for about two-thirds of the front of a deep rich magenta-purple, the disk and throat orange-yellow, the upper edge paler, and the magenta tint passing backwards in streaks over the disk.

Cattleya Trianæ formosa, *Williams MS.*

We now present to our readers a portrait of a most splendid variety of *Cattleya Trianæ*, of which there are numerous handsome forms, varying in colour from rose to crimson and magenta, and also to pure white, with intermediate tints. During the past five years there have been very large importations, but none that we have seen surpass the varieties we have already in cultivation, such as *Dodgsoni*, *Osmanii*, *Russelliana*, and *Williamsii*. These varieties are most difficult to improve upon, but probably we shall get other splendid forms among the large importations as they come to us from the different districts which the species inhabits. The *Trianæ* section has given us a grand lot of varieties for winter decoration especially: there are very many distinct types among them, and they come into blossom at a time, during the dull months of winter, when flowers are wanted to make our houses gay. Our drawing was taken from a very large specimen that has been grown and bloomed by us for several years, and which we consider one of the most beautiful varieties in cultivation—we believe our plate will show us to be fully justified in so doing.

Cattleya Trianæ formosa is a free and strong-growing evergreen kind, attaining fifteen inches high, with dark green foliage and strong sheaths. The flowers are of large size and substance, and are thrown well up so as to have a bold appearance, much more so than many others of its class. The sepals and petals are of a blush

pink, and the lip rich rose-magenta, being beautifully frilled and edged with a lighter tint of the same colour. The flowers, which are two and a quarter inches in diameter, have the throat orange veined with a deeper orange, and are produced in February and March, lasting for several weeks in beauty.

It thrives best in a pot with rough peat and good drainage, and requires the same treatment as *C. Mossiæ* and *C. Trianæ*, beginning to grow after it has finished blooming. These make their flower sheaths in summer, much earlier than most of the *Cattleyas*, which secures to this section more light and heat in which to finish off their growth before winter sets in. Their pseudobulbs must be kept dry during winter, as if allowed to get wet they will probably rot away; therefore, when their growth is finished, give only sufficient water to keep the pseudobulbs in a plump state.

Orchids at Gouville.—The Comte de Germiny, Chateau de Gouville, France, has a noted collection of Orchids, which we recently had the pleasure of visiting. We found many grand specimens that interested us exceedingly, including fine *Cattleyas*, *Lælias*, *Saccolabiums*, *Aërides*, *Vandas*, *Angræcums*, *Cypripediums*, *Phalænopsis*, &c. We gave a short notice of this splendid establishment in our second volume, and now confine our remarks to the specimens we saw in flower. Of *Cattleya labiata pallida* there were two wonderful specimens, with over one hundred pseudobulbs on each; the first had forty-eight expanded flowers on it, and the other twenty-eight, a most gorgeous sight. Contrasting well with these were several good plants, in full bloom, of *Epidendrum nemorale majus*, with their drooping spikes of showy delicate rose-coloured flowers. These were backed up with a fine specimen of *Sobralia macrantha*, bearing thirty spikes of its rich purple and crimson flowers, of a large size. Then came *Epidendrum vitellinum majus*, suspended on a block, with twelve spikes of its bright orange-scarlet flowers, which always form a fine contrast with the surrounding colours. Near this were fine specimens of *Cattleya crispa superba*, and a specimen of *Cattleya Mendelii*. There were also some fine *Vandas* in full beauty, as well as *Oncidiums* with bright yellow blossoms, and *Dendrobium suavissimum*, with orange yellow and brown spotted flowers. A fine specimen of *Epidendrum prismatocarpum* was showing fourteen spikes. M. Rondeau, the energetic gardener, informed us that they had at one time three hundred and ninety expanded flowers of *Cattleya Mossiæ*, *Mendelii Warnerii*, and others, which must have been a gorgeous sight; also *Cattleya citrina*, different plants, that produced fifty-two of their yellow fragrant flowers. It is always a delight to a lover of good plants to visit a place where gems like these are the pride of the owner; and in this case we found that the Comte de Germiny not only has a good knowledge of his plants, but took the greatest interest in showing them to us.—B. S. W.

J.Nugent Fitch del.et lith.

CYPRIPEDIUM MELANOPTHALMUM

B.S.Williams Pub.

CYPRIPEDIUM MELANOPHTHALMUM.

[Plate 109.]

Garden Hybrid.

Epiphytal. Acaulescent. *Leaves* distichous, coriaceous, oblong-lanceolate, acute, of a pale dull green colour, chequered with coarse elongate reticulations of a darker green. *Scape* (peduncle) greenish, clothed with purple hairs, having near the apex a short acuminate hairy bract, which is strongly ciliated. *Flowers* medium-sized, of a rather showy character, solitary; *dorsal sepal* broad ovate-acuminate, an inch and a half long, white flushed with purple towards the base, distinctly marked with green veins, of which the two pairs on each side the central one are alternately long and short, while the rest become gradually shorter as they approach the edge; united *lateral* ones narrow ovate, whitish with green veins; *petals* glossy, linear oblong, dull purple on the upper side towards the base, and marked with a series of black warty hairy dots on the upper edge, the apical portion bright reddish purple or wine-red, the lower half somewhat greener, both margins ciliate; *lip* bold, an inch and three-quarters long, with a somewhat compressed pouch an inch long, of a dull reddish purple suffused with green—the green colour most apparent towards the tip and back—and distinctly marked with darker purple reticulations, the sides veined, pale yellowish spotted with crimson warts within, their upper angles produced into auricles. *Staminode* very prominent, hexagonal, emarginate in front with a small tooth inside, veined with green in the centre, pale purplish green at the edge, the surface shortly downy.

Cypripedium melanophthalmum, *Reichenbach fil., Gardeners' Chronicle*, n.s., xiv., 525.

This is one of the numerous hybrid Lady's Slippers that have been raised by R. Warner, Esq., Broomfield, Chelmsford. All these are of free-blooming character, every small growth bringing its quota of flowers. The foliage of the several forms is differently variegated, while the flowers of all the kinds are of long duration, which is an excellent quality in any plant. It will be seen from our illustration that *Cypripedium melanophthalmum* is a pretty plant, and one well worthy of cultivation, since it produces flowers which are valuable for cutting purposes, the stems being firm and long, which makes it useful for vases and other decorations for the adornment of living rooms. The plants are grand for exhibition purposes, as they carry well without injury by tying each flower-stem to a small stick.

The *Cypripedia* are of easy cultivation. They may, moreover, be freely hybridized, and are more readily produced from seed than many other subjects, as may be seen from the number which have been brought before the public, by those who make it their study to raise them in this way. Some persons are more

successful in this branch of culture than others. There is no doubt that it requires a good deal of skill and tact to find out the best sorts for crossing, and also to effect the best crosses; moreover, it occupies a good deal of time, but we do not know of anything more delightful than this self-imposed task of improving the beauties of nature, and where one can devote attention to it, there must be a great deal of pleasure in watching the progress of one's pets and noting the results of one's labours when they put forth their blossoms.

Cypripedium melanophthalmum is an evergreen plant, having light yellowish green foliage with dark reticulations and blotches. The flower stems grow about six inches high, bearing the interesting flower at the top; the dorsal sepal is white flushed with purple at the base, and veined with green; the petals are bright reddish crimson, with darker veins and black hairy blotches or wart-like spots on the edge; the pouch is bright crimson with a green base, netted with green and reddish brown.

It requires the same treatment as *C. barbatum*—that is, it should be potted in rough fibrous peat, with good drainage, and the plant should be well elevated above the pot-rim, so that the roots can run over and also into the soil. These plants require a good deal of water, nearly all the year round, as they have no thick fleshy bulbs to support them. It must always be borne in mind that they must be kept free from insects to ensure successful and satisfactory progress.

Aërides Lawrenciæ.—At Stevens' Auction Rooms, on the 19th day of September last, there was a magnificent new *Aërides* offered for sale, which realized the large sum of 235 guineas (£246 15*s.*), the purchaser being Sir Trevor Lawrence, Bart., M.P. It is encouraging to see that Orchids are more esteemed than ever they were, and that in spite of the enormous importations which are continually being received, good things are realising higher prices than ever. This new *Aërides* resembles in habit a large growing form of *A. quinquevulnerum*: the flower-spike measures two feet in length, and bears thirty-two of its lovely blossoms, which seem to be intermediate between those of *A. odoratum* and *A. quinquevulnerum*, possessing the strong aroma of the first-named plant. The flowers are very large, the sepals and petals white tipped with rosy-purple, the lip white marked with rich amethyst. It has just been named in compliment to Lady Lawrence.—H. W.

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MASDEVALLIA HARRYANA MINIATA

Vincent Brooks Day & Son Lith

F. S. Williams Publr

MASDEVALLIA HARRYANA MINIATA.

[Plate 110.]

Native of New Grenada.

Epiphytal. *Stems* short, tufted, slender. *Leaves* persistent, of leathery texture, the blade spathulate, channelled at the base, keeled behind, tapering down into the petiole, which is invested by whitish brown membranaceous sheathing bracts. *Scape* issuing from the bract, investing the leaf base, radical, about a foot high, stiff, pale green, thickly striate-blotched with purple, with one or two distant sheathing bracts, and surmounted by the curved six-ribbed ovary, which is dotted with purple. *Flowers* remarkably brilliant in colour; *tube* about a quarter of an inch wide and upwards of half an inch long, orange-yellow, the open tube forming a yellow eye to the flower; *dorsal sepal* filiform, recurved, two inches long; *lateral sepals* deflexed falcate-ovate acute, fully two inches long by one inch wide, of a bright vermilion-red flushed with scarlet, and having the principal ribs of a rich deep crimson; *petals* minute, oblong-obtuse, white tinged with purple; *lip* still shorter, the tip recurved yellow, the disk with a deep furrow between two obtuse ridges. *Column* white, shorter than the petals, the winged margin extending upwards into a toothed hood.

Masdevallia Harryana miniata, *Williams and Moore, supra.*

This is a most charming variety of *Masdevallia Harryana*, being quite a new colour in this section; it is the most distinct and beautiful for its brightness of hue—one which we have not yet seen developed to such perfection of brilliancy in any other variety. It may also be noted, that when mixed with other forms of various colours it blends with them most charmingly. How exceedingly bright and beautiful it is will be seen from our figure, in which, however, it has been extremely difficult for our artist to imitate the natural tint of the flower. Our sketch was taken from a well-bloomed plant in the large collection of *Masdevallias* grown by W. Lee, Esq., of Downside, Leatherhead. It is a very rare as well as showy plant, and we shall be glad to see more of it, as it will assuredly be sought after.

Masdevallia Harryana miniata is a dwarf compact-growing plant, with foliage about eight inches high of a bright dark green colour. The flowers are scarlet-vermilion with a bright yellow eye. It blooms during May and June, and lasts about four weeks in full beauty.

This plant will thrive under the treatment recommended for the forms of the *Harryana* section in our first volume (Plate 24), where all the necessary particulars will be found. Mr. Woolford, the gardener at Downside, is a most successful cultivator, and has under his charge a house nearly 100 feet long filled with

Masdevallias, wherein, when we last saw them, there were many hundreds of expanded blossoms of large size and high colour. They are potted in the same way that we recommend. Mr. Woolford seems to diffuse a great deal of moisture about the house during the summer months, and the soil they are growing in is kept very moist. If anyone wants to see these lovely plants in perfection and well cultivated, this is the place at which to find them.

Orchids at The Dell, Staines.—The collection of Baron Schröder is well worthy of a visit, there being always something to see and to learn. The Baron takes such great interest in his collection that he will have good species and good varieties. He does not fill his houses with numbers of imported plants to take the chance of what he may get, but he secures at once good healthy established plants of all the choicest and best known kinds. Of course, there is a chance of getting good forms among the imported plants, but along with them one finds a great many that one does not care for, but which have occupied valuable space; besides which such plants are unsightly in a show house. A few rough imported plants spoil the appearance of a whole collection, and we know ladies prefer to see good flowers accompanied by fine green foliage, which always renders a plant more agreeable to the eye.

We noticed many fine plants here in August last, when but few Orchids are in bloom: indeed there are always good plants blooming here. A splendid house has been allotted to *Cattleyas*, of which there are some grand and noble specimens; we noticed several fine plants of *Cattleya exoniensis*, also of the best form of *C. labiata*, with some wonderful specimens of *C. Trianæ* and *C. Russelliana*, *C. Mendelii*, *C. Warnerii*, *C. Dominiana* in two varieties, and many new hybrids. Of *Lælia purpurata* there were fine specimens of the best varieties; also some good forms of *L. elegans*. There were several fine *Vandas* in this house. We also noticed *Renanthera Lowii*, showing a vigorous spike of bloom, and by the side of this was a good specimen of *Cattleya crispa grandiflora* with several spikes, one having nine flowers; also one of *C. gigas* which bore seven flowers, and had a very large lip, quite distinct in colour. Associated with this was the rare *Lælia callistoglossa* with a rich magenta lip, in full beauty and very showy. There were other good plants in bloom.

In the Saccolabium house there had been many fine kinds in flower. We noticed a very handsome *S. Blumei giganteum* with a spike two feet long and of large size—the best plant and spike we have seen. There were also fine varieties of *Phalænopsis violacea* in bloom, and grand specimens of other rare species, also of *Cattleya Eldorado*, with some good *Aërides*, *Angræcums*, &c.

There were some handsome Odontoglots in bloom, and others had thrown some fine flower spikes; also some good plants of *Mesospinidium vulcanicum*, one with nine spikes of its richly-coloured flowers and others equally good; this plant produces a fine contrast among the white *Odontoglossums*, and such effective colours should be sought after, especially when, as here, associated with fine form.—B. S. W.

ODONTOGLOSSUM ELEGANS.

ODONTOGLOSSUM ELEGANS.

[Plate 111,]

Native of Ecuador.

Epiphytal. *Pseudobulbs* oblong, somewhat furrowed, three inches long, diphyllous. *Leaves* ligulate, acute, tapered and channelled towards the base, of a pale green colour. *Scape* radical, slender, arching. *Flowers* racemed or panicled, stellate, three inches in breadth, highly coloured, and showy in character, the yellow centre being very conspicuous; *sepals* lanceolate, attenuately not suddenly acuminate, recurved and wavy at the edge, the dorsal two inches, the lateral ones about an inch and three quarters long, white, yellow towards the tip, with dark chocolate blotches, which almost cover the surface leaving only a few broken bars near the base and a patch at the apex; *petals* spreading at the extreme base, then incurved, and finally having the tips recurved, ovate-lanceolate attenuately acuminate, the basal part white with irregular spots and small blotches of chocolate brown, with a larger spot about midway, exterior to which the petal is sometimes spotless and sometimes marked with two or three spots; *lip* having its basal portion parallel with the column, then turned down at a right angle, panduriform with a recurved cuspidate apex; at the angle is a spreading fringe of many (about eight) projecting processes, the two front ones continuous with the crest along the basal portion of the lip, yellow with chocolate tips, and three shorter ones yellow with a chocolate stripe; behind these are five reddish chocolate stripes which appear like continuations of the teeth; hinder portion about half an inch broad, pale yellow blotched with brown at the edge but strongly recurved, succeeding which is a restricted part wholly covered by a rich brown spot, after which the lip widens and passes into a recurved cuspidate apex, which is white with one or two chocolate blotches. *Column* half an inch long, clavate, with two subulate horns, white spotted with chocolate, the stigmatic hollow and its margins stained with chocolate purple.

Odontoglossum elegans, *Reichenbach fil.*, *Gardeners' Chronicle*, n.s., xi., 462.

The subject of our present portrait is a most beautiful and distinct Odontoglot, and one with which we believe our subscribers will be glad to become acquainted. It is an extremely rare plant, and the only specimen we have seen, was imported with a lot of *Odontoglossum cirrhosum*. It is doubtless a natural hybrid, of which that species is one of the parents, as it resembles it both in the shape of its flowers and growth. This plant was exhibited by H. M. Pollett, Esq., Bickley, Kent, before the Floral Committee of the Royal Horticultural Society, from whom it received the highest honours. It has bloomed in this well-known collection for two successive years, the flowers very much finer and the growth stronger on the last occasion. It is an astonishing trait in the character of this Odontoglot, that the stronger the plants become the finer are the flowers, that is, provided they have a proper house

and proper treatment. Mr. Pollett has some small span-roofed houses in which the plants seem to enjoy their position, as they are thriving well under his gardener's care.

Odontoglossum elegans is an evergreen species of compact growth, with light green foliage about ten inches in height. The pseudobulbs grow about three inches high. The sepals and petals are cream-coloured, tipped with yellow and irregularly blotched and barred with chestnut brown; the lip is long and similar in form to that of *O. cirrhosum*, having a large golden yellow crest. It blooms during the spring months, and lasts in beauty for several weeks, its drooping spikes producing more flowers than are shown in our drawing, as our artist was not able to show the full spike in his representation, from its being too long. This particular plant has been distinguished as Pollett's variety, an unweildy form of naming which we prefer not to adopt.

The plant requires the same cultivation and treatment as *Odontoglossum Alexandræ* and others of that class, of which we have given full particulars in our first volume, under Plate 47.

Vanda Sanderiana.—It is with great pleasure that we are able to announce the flowering of this magnificent novelty, in the collection of W. Lee, Esq., Downside, Leatherhead, where it may now (September) be seen, bearing three spikes of its gorgeous flowers. One spike bears twelve flowers, and another eight. If the reader will imagine a dozen of these lovely blossoms, each from four to four and a half inches in diameter, collected together on one spike, he may form some idea of the magnificence of this grand novelty. In growth the plant resembles a gigantic *V. cærulea*, but having much broader and longer leaves, and stouter stems and flower-spikes than that species. The spikes are produced from the axils of the leaves in an erect position. The leaves are from nine to twelve inches long, and about an inch broad, deeply channelled. The flowers are fully four inches in diameter; the upper sepal and the two petals are nearly of one size and of a blush-pink, about the colour of a pale variety of *Odontoglossum vexillarium*; the lower sepals are much larger and broader than the petals, two inches across, tawny yellow distinctly and beautifully reticulated with dull crimson over the entire surface; the lip is dull brownish crimson, and has three keels along the centre extending from the apex to the base. The contrast of the crimson markings on the yellow sepals renders this new Vanda one of the most distinct species we have ever seen. We have had a sketch of this plant prepared, and it will shortly be presented to our readers.—H. W.

CATTLEYA SKINNERI ALBA.

CATTLEYA SKINNERI ALBA.

[Plate 112.]

Native of Costa Rica.

Epiphytal. *Stems* obovate-oblong, compressed, furrowed, attenuated below into a terete jointed stalk. *Leaves* two, palish green, spreading, leathery, oblong-obtuse, sub-emarginate. *Scape* six to eight-flowered, issuing from a short oblong spathe. *Flowers* exceedingly chaste and elegant, pure white in colour, measuring four inches in depth and breadth; *sepals* plane, lanceolate, acute, recurved at the extreme tip, half an inch in breadth, pure white; *petals* ovate-obtuse, one and a quarter inch in breadth, slightly undulated towards the tips, also pure white; *lip* white, the basal part very closely and narrowly rolled around the column, and there showing exteriorly on the lower side a slight stain of rose, which, when unrolled, appears as a small rosy blotch, the front lobe roundish reniform. *Column* white, clavate, about an inch long.

Cattleya Skinneri alba, *Reichenbach fil.*, *Gardeners' Chronicle*, n.s., vii., 810.

The fine genus *Cattleya* is becoming more and more interesting and valuable every year, since many new forms and colours are continually coming before us. We feel great pleasure in being able to figure this chaste and lovely variety of *C. Skinneri*, which has pure snow white flowers. It is quite astonishing to find that white forms of so many different kinds of *Cattleya* are being brought home by our energetic collectors. Many, indeed, have turned out to be white-flowered when we have bloomed them, without any knowledge of the fact on the part of those that have collected them, the reason being that often they do not find them in bloom, and it is, of course, difficult to know their colours unless they are in flower; moreover, it sometimes occurs that there are not many of the pure white forms. There may be others of a rosy hue, and it is frequently the case that seedlings come intermediate in colour. We hope our collectors may be fortunate enough to find pure white forms of other species in bloom, as they are so charming. The variation of colour which occurs in some of the species in their native country, is no doubt due to the intervention of insects, the action being just the same as that of the hybridizer in our plant-houses.

We bloomed a very fine pure white *Cattleya Skinneri*, an imported plant, some years ago, and we have since seen several white varieties, but the figure we now publish was taken from a plant in the collection of Sir Nathaniel de Rothschild, of Tring Park. The spike, as may be seen from our plate, was a good one, with well-expanded blossoms, not quite so large as in the parent *Cattleya Skinneri*, which is of a most charming rosy purple, and one of the most distinct and showy of Orchids. There

are fine varieties of this species, especially one that has been grown in collections for many years, and that we have been in the habit of exhibiting for the past 35 years—even before that there were fine specimens of it in cultivation. The species was named after the late G. Ure Skinner, Esq., who imported it from Guatemala, together with many other Orchids, and whose name will always be associated with this class of plants, many fine kinds having been named after him.

Cattleya Skinneri alba is an evergreen plant, with light green stems and foliage. The stems are about twelve inches high, and each produces two leaves about four inches long. The spikes proceed from an oblong sheath at the top of the stem in March and April. The sepals and petals are pure white with the throat of the lip pale yellow. It continues in bloom for two or three weeks, but it must be kept free from damp, as white flowers soon become spotted if kept in too cool and damp an atmosphere; it is always best to have a dry, warm house for plants that are in bloom, as they then last so much longer. Mr. Hill, the gardener at Tring Park, must have kept this specimen in a dry, warm house, as the flowers were most perfect when they reached us.

This plant requires the same treatment as *C. Skinneri*. It is best grown in a pot or basket, with good fibrous peat and sphagnum moss, the pots being filled three-parts full of drainage, then filled up with rough peat, placing some pieces of charcoal amongst it; this will keep it open and porous, and the roots will run freely among the charcoal. In the growing season the soil requires to be kept rather moist, but the plant does not like too much water about its roots at any time. It is best grown near the light, with a little shade when the sun is hot, the shading not being required at any other time. We find the warm end of the Cattleya house to suit it, as it requires more warmth than some of the other Cattleyas. When the growth is finished in autumn, very little water should be given, and during winter only just sufficient to keep the stems plump, until they begin to throw up their flower spikes in March, when a little more may be supplied to assist the flowers in opening, and to secure finer blossoms.

They begin to grow after their flowering season is over, which is the best time for division if it is required, but it is best to avoid cutting this rare plant as much as possible, as sometimes the divided pieces will not succeed so well, especially if the plant is not strong and vigorous. When divided, place them in a shady, moist place until they get established; then they may be removed to a position more exposed to the light.

DENDROBIUM WARDIANUM GIGANTEUM.

[Plate 113.]

Native of Burmah.

Epiphytal. *Stems* stout, pendulous, deciduous, attaining three feet in length, knotty at the nodes. *Leaves* oblong-lanceolate, attenuate at the apex. *Racemes* two or three flowered, issuing from the nodes of the matured stems. *Flowers* large and conspicuous from their striking colours; *sepals* oblong-lanceolate, bluntish, white tipped with magenta-rose, the margins reflexed; *petals* oblong-ovate, obtuse, white more deeply tipped than the sepals; *lip* cucullate, the base folded over the column, the anterior portion ovate-obtuse, recurved at the tip, entire, the surface covered with crystalline processes, the colour golden yellow at the base with a pair of maroon-crimson spots, the margin and middle portion creamy white, the apex tipped like the petals with deep magenta; *spur* short. *Column* short, depressed, almost hidden in the base of the lip, the anther-case white.

Dendrobium Wardianum, *R. Warner, Select Orchidaceous Plants*, ser. i., t. 19; *Jennings' Orchids*, t. 2; *L'Illustration Horticole*, ser. 3, t. 277; *Gardeners' Chronicle*, n.s., viii., 241, fig. 50.

Var. gigantеum.—Habit more vigorous and more erect than in the ordinary form; stems stouter and less nodose, four to five feet long; flowers larger, and of stouter substance, otherwise as in the type.

Dendrobium Wardianum gigantеum, *Williams & Moore*, supra.

Dendrobium Wardianum Lowii, *Smith, Floral Magazine*, n.s., t. 212.

The flowers of the plant we now bring under the notice of our readers are of the most perfect form, of the richest colours, and also of very large size. It is altogether a stronger grower than the type of the species named in compliment to Dr. Ward, of Southampton, and of which a fine figure is published in Plate 19 of the first series of Warner's *Select Orchidaceous Plants*. By a comparison of the two illustrations, it will be seen that the typical plant has much thinner and more tapering stems, and that the flowers are of a smaller size than in the variety now treated upon, though the colour and marking are equally brilliant in both. The larger form, *giganteum*, also comes from a different country, the smaller kind having been introduced from Assam, while the larger one comes from Burmah, which difference may account for the difference in their growth. Our sketch was taken from a plant in the collection of D'Alroy Salamon, Esq., of Clapham Park, where it has bloomed two years in succession. There is in cultivation a variety of *D. Wardianum* with white flowers, which has been bloomed during the last two or three years from imported plants. It is quite interesting to find that in most of the principal genera

white varieties are turning up to meet the growing taste for white forms of the different Orchids.

Dendrobium Wardianum giganteum is a deciduous plant, sometimes producing growths four or five feet long, with somewhat knotty joints all up the stems. The foliage is of a bright green colour, and begins to fall off after it has completed its growth. The sepals and petals are white heavily tipped with deep magenta-rose, while the lip is of a deep orange-yellow at the base, with two blackish crimson blotches, the tip of the lip being bright magenta-rose. It blooms during the winter and spring months according to the time of the completion of its growth. We have seen it in bloom in the month of October, so by having a number of plants started at different periods, it might be had in bloom for many months, some of the plants being retarded by keeping them dry in a warm house—for it is not safe to put them into a cold house, as this often injures the growth for the following year.

The plants are best grown in baskets or pans suspended from the roof, where they get all the light, but just keeping them from the burning sun. We find rough fibrous peat with sphagnum moss and good drainage to suit them. They must be kept moist at the roots during the growing season, but when their growth is completed only just sufficient to keep the stems plump must be allowed them until they begin to show their flower buds: then give a little moisture at the roots, which will induce them to bloom finer, and to start into growth after their flowers are over. Sometimes they will start growing during the blooming season, and if so this should not be checked.

We find the East India house the most suitable one for them, or they will grow in any house where the heat is kept up during the growing season. When at rest less warmth will suffice. They must be kept free from insects. Sometimes the red spider and thrips will attack the leaves, but these may be kept under by syringing or using tobacco-smoke—the latter sparingly, as too much will be very injurious to the young growths.

Cattleya Trianæ formosa (Plate 108).—In the remarks on this Cattleya, instead of "the lip rich rose-magenta being beautifully frilled and edged with a lighter tint of the same colour. The flowers, which are two and a quarter inches in diameter, have the throat orange veined with a deeper orange, and are produced," &c., read "the lip rich rose-magenta being beautifully frilled and edged with a lighter tint of the same colour, two and a quarter inches in diameter, the throat orange veined with deeper orange. The flowers are produced," &c., &c.

J.Nugent Fitch del.et lith.

TRICHOSMA SUAVIS.

B.S.Williams

TRICHOSMA SUAVIS.

[Plate 114.]

Native of the Khasya Mountains.

Epiphytal. *Stems* thin, terete, tufted, from a short rhizome, with a few sheathing verrucose scales at the base, the apex diphyllous. *Leaves* somewhat fleshy, broadly lanceolate acuminate, obsoletely three-nerved, the base contracted into a sheathing petiole. *Flowers* in short terminal racemes, fragrant; *sepals* lanceolate, spreading, the dorsal one free, the lateral ones somewhat broader, adnate at the base with the foot of the column, so as to form a short chin, creamy white; *petals* erect, lanceolate, resembling the dorsal sepal, creamy white; *lip* articulated with the foot of the column, with a short incumbent claw, the limb three-lobed, the side lobes plane striped with brownish crimson, the middle one undulated, yellow spotted with red and bearing five crispy lamellæ or crests, there being also four such crests on the disk. *Column* short, semiterete, marginate, the anther-bed irregularly toothed at the edge, the anthers incumbent affixed within the margin. *Pollen-masses* eight.

Trichosma suavis, *Lindley, Botanical Register*, 1842, t. 21.

Cœlogyne coronaria, *Lindley, Botanical Register*, 1841, misc. 178.

Eria coronaria, *Reichenbach*, in *Walpers' Annales Botanices Systematicæ*, vi., 271.

The Orchid, of which we now submit a figure, is a very pretty free-growing species; it is also distinct from any other Orchid, and one well worthy a place in any collection. Almost every one who sees it in flower admires it, not, perhaps, so much for its showy character, as for its neat pleasing inflorescence and fragrant flowers. There are admirers of small flowered Orchids as well as of those with larger and more showy blossoms.

This *Trichosma* has curious slender fleshy stems, scaly at the base, and surmounted by a pair of dark green three-nerved leaves from between which, at the top of this stem, the flower spike is produced, as will be seen from our figure. The inflorescence forms a short erect spike or raceme, bearing several very sweet-scented flowers, which have a pleasing appearance.

Trichosma suavis grows about ten inches in height, and produces its blossoms very freely. The sepals and petals are of a creamy white colour, the lip profusely striped with purplish crimson and having a bright yellow crest.

This plant flowered with us in March, and continued for several weeks in bloom; but we have also seen it blossoming at different times of the year, according to the period of the completion of its growth. We find it does well grown in a pot with rough fibrous peat and good drainage, and when in vigorous growth it

must be kept moderately moist at the roots. It should never be allowed to get dry as it has no thick fleshy bulbs on which to draw for support. We find it succeeds well in the Cattleya house, shaded from the burning sun during the summer season.

Dr. Paterson's Orchids.—The charming locality of the Bridge of Allan has long been celebrated for this collection of Orchids. Dr. Paterson is an enthusiastic lover of this most noble family, for as he truly says, "There are no plants like them." There are others of the same opinion, and we believe there is no class of plants that afford such an amount of pleasure and interest to the cultivator, for the more one gets acquainted with them, the more one finds to admire, in their bright colours and their infinite variety, the length of time they last in blossom, and their usefulness when cut; besides all this there is the interest of novelty attaching to them, many new species and varieties continually appearing. There are, in fact, no flowers to surpass them.

At Dr. Paterson's there is always to be seen a grand display of Orchids. The way in which they are cultivated, and the order and cleanliness that surround them, seem to be made quite the study of their owner. No doubt cleanliness is one of the principal items in their successful cultivation. It is marvellous how this collection has sprung up since our visit in September of last year. Nearly all the best specimens had then been sold, many of them at high prices, and scattered in different directions; buyers came from far and near, as there were many unique specimens of fine species and select varieties. These were sold to make room for the young plants, which now bid fair to be as fine in a few years' time, for they are at present making rapid strides. The East Indian kinds are in a specially flourishing condition. We noticed a vigorous plant of *Vanda Cathcartii*, three feet high, and the specimens of *Saccolabium*, *Aërides*, *Cattleya*, *Lælia*, *Vanda*, &c., are making fine growths. To enumerate the plants that are doing well would occupy too much of our limited space, but we cannot conclude this note without mentioning the cool Orchids, such as *Odontoglossum Pescatorei*, *O. Alexandræ*, and many other kinds, some in bloom, and others showing fine spikes and making good pseudobulbs. The specimens of *Masdevallia* were making good progress. Next to these was *Oncidium Barkerii*, with its bright yellow flowers. The different kinds of *Pleione* were also finely in bloom.

Visitors go from all parts to see this collection, Dr. Paterson being as pleased to show the plants as others are to see them. The Bridge of Allan is a charming spot situated among the Perthshire Hills, and is a place of healthful resort, especially in winter, as the climate is mild. It is within easy distance of the town of Stirling; it can also be reached from Glasgow and Edinburgh in very little time, and is well worthy a visit.—B. S. W.

CATTLEYA WHITEI.

CATTLEYA WHITEI.

[Plate 115.]

Native of Brazil.

Epiphytal. *Stems* clavate, furrowed, monophyllous. *Leaves* short, ovate-oblong, coriaceous. *Racemes* three-flowered, issuing from a pair of oblong-obtuse compressed sheathing bracts. *Flowers* medium-sized, very handsomely coloured: *sepals* ligulate-oblong, entire, recurved at the edge, of a deep rosy tint with a flush of olive green, which is more evident on the outer surface and at the tips, about as long as the lip, the dorsal one longer, the lateral ones falcately deflexed, all acute with the tips recurved; *petals* broader (an inch and one-eighth wide), ovate-oblong, acute, undulated towards the recurved apex, of a bright magenta-purple; *lip* two and a half inches long, stipitate, the lateral lobes truncate with the upper angle acute, pale blush towards the base, where they are rolled closely over the column, the tip which is recurved tinted with magenta, the lower side of the tube and throat bright yellow; front lobe of lip an inch long and an inch and a half broad, roundish reniform, with the edge neatly undulated, and distinctly fimbriate-denticulate, the ground colour magenta-rose, veined closely all over except the extreme edge, which is white, with deep crimson-magenta, the veins running back in a wedge-shaped figure to just within the tube, where they pass to crimson; a strong central line of magenta passes half way down at the back. *Column* clavate, semiterete, the edge thin, almost wing-like, whitish with a tint of blush at the apex.

Cattleya Whitei, *Reichenbach fil.*, *Gardeners' Chronicle*, n.s., xviii., 586.

This most beautiful *Cattleya* is of recent introduction, and is one of the most rare, chaste and distinct kinds that has been introduced of late. It is supposed to be a natural hybrid, the result of insect fertilisation in its native country. The specimen in the hands of Holbrook Gaskell, Esq., Woolton Wood, Liverpool, in whose fine collection it bloomed in July last, and through whose kindness we have been enabled to figure it, is believed to be the only plant ever imported; and we must congratulate the owner on his being the means of bringing such a magnificent species to the notice of Orchid growers. It is very gratifying to find that so many new forms of *Cattleya*, both species and varieties, have been brought home by our collectors within the last few years; they are grand acquisitions to our collections, as there are no other Orchids that make such an effective display. Now that there are so many and such varied kinds introduced, we shall be able to have Cattleyas in bloom all the year round, by procuring the different species and varieties which are of nearly all shades of colour, many of them being very brilliant and distinct. We are glad to know there are some kinds that will do in cooler houses, and others of them are small-growing species, which will increase their value to those who have only small houses in which to grow them.

Cattleya Whitei is an evergreen plant with handsome, good-looking dark green foliage. In growth it is much like the dark variety of *C. labiata*, its foliage and pseudobulbs being similar; it produces three flowers on a spike, the sepals and petals being bright magenta-crimson, with a flush of brown on the front portion, the lip pale magenta distinctly veined with intense magenta-crimson, and the throat bright yellow. It blooms in July, and Mr. Davies, the gardener, tells us that it lasts two or three weeks in beauty.

This novelty requires treatment similar to that given to *C. Mossiæ* and *C. labiata*—namely, to be potted in good rough fibrous peat, with thorough drainage. It should have the heat of the Cattleya house, with all the light possible, during the whole year, which will enable the plant to properly mature its stems and foliage, after which we may expect good results. A slight shading must be given during hot sunny days.

Orchids at Melrose, the residence of A. Curle, Esq.—We paid a visit to this place a short time since and were well pleased with the collection. The mansion is prettily situated on rising ground, well backed up with trees, while the view of the ruins of the old abbey in front gives the place a quaint aspect which renders it specially interesting to visitors. There is a range of glass houses consisting of vineries, and greenhouses. Then we come to the Orchid houses, in which there is a well-grown collection of these plants, which are doing well and making fine growth. The centre table has a row of good plants, such as *Vanda tricolor* Dalkeith variety, also a beautiful *Vanda suavis* which was reported to be a fine variety, and some other good Vandas. We, moreover, noticed a telling plant of *Cattleya Harrisoniana violacea* finely in bloom, which, with its violet-coloured flowers, is very showy. There are some grand specimens of *Cattleya gigas*, *C. Mendelii*, and *C. Mossiæ*, showing excellent growth, and many other Cattleyas and Lælias making rapid progress. Suspended from the roof we noticed a plant called *Lælia pumila spectabilis*, but it was not in blossom; since our visit, however, we have received a fresh bloom of it from Mr. Sharp, the gardener, and a most beautiful flower it is, being of good shape, the sepals and petals dark rose, the lip rich purple and of stout substance. The foliage is very dark which is the case with some of the varieties of *L. præstans*, of which there are several in cultivation, this being one of the best we have seen. In the same house was a good *Vanda cærulea* showing fine spikes, and associated with it were some handsome forms of *Cypripedium Spicerianum* in bloom. We noticed also some well-grown specimens of *Dendrobium Wardianum giganteum* making strong growth, several plants being five feet high.

In the next house were many fine examples of *Odontoglossum Alexandræ*, *O. Pescatorei*, and others making good pseudobulbs; also Masdevallias and many other good plants. We noticed a splendid *Zygopetalum Mackayi*, so called, but we think it was distinct from any we have seen, the colour being intense, and the lip of a very rich purple.—B. S. W.

J. Nugent Fitch del. et lith.

AËRIDES VANDARUM.

AËRIDES VANDARUM.

[Plate 116.]

Native of India.

Epiphytal. *Stems* terete, flexuose, rooting, clothed with the sheathing bases of the leaves, growing two feet or more in height, of a purplish brown colour. *Leaves* distant, harsh in texture, four to six inches long, as thick as the stem, subulate, terete narrowed to an acute point, with a narrow furrow on the upper side, evergreen. *Peduncle* lateral, opposite the leaves, one or two flowered. *Flowers* rather large, delicate but durable, white; *sepals* spreading, the dorsal one ligulate with a stalk-like base, the lateral ones subcrenulate united to the foot of the column, the margins always undulated; *petals* obovate cuneate, undulated; *lip* tripartite, the lateral (basal) divisions linear-falcate, toothletted, the middle one deeply two-lobed, the lobes reniform, concave, crenate narrowed at the base into a claw, with a small toothed segment on each side and a sharp keel between; *spur* extinguisher-formed. *Column* short, wingless. *Pollen-masses* two.

Aërides Vandarum, *Reichenbach fil.*, in *Gardeners' Chronicle*, 1867, 997.

Aërides cylindricum, *Hooker, Botanical Magazine*, t. 4982, non Lindley; *Gardeners' Chronicle*, n.s., iii, 537, fig. 115.

There is no doubt that the species of *Aërides* rank among the most beautiful of the East Indian Orchids. The one we now introduce to the notice of our readers is very distinct in its manner of flowering, and also in its foliage, the general aspect of the plant being much like that of *Vanda teres*, whence the name given it by Professor Reichenbach of *Aërides Vandarum*. The flowers are large and the manner of its growth makes it a very interesting subject. Few cultivators, however, have seen it in blossom. Our artist took a sketch last March from a plant blooming at the Victoria and Paradise Nurseries, where it flowered for several weeks.

Aërides Vandarum, is an evergreen species and grows about two feet in height. The foliage is terete and acutely pointed, like that of a small growing *Vanda teres* and the stem is of a purplish brown colour. It produces two flowers on a spike, and these are of a pure white colour; it blooms in March and April, and lasts three weeks in perfection.

This plant requires the heat of the East India house, with all the light possible. It will thrive in pots or baskets with sphagnum moss, or even on rafts of wood, but when grown on these it requires more frequent supplies of moisture.

It should have about the same treatment as *Vanda teres*, growing well during the summer if provided with plenty of moisture over the foliage and roots during the growing period, and having a good rest during winter, when it needs only just sufficient moisture to keep the stems and leaves from shrivelling. When it begins to show flower, it should have a little water to plump the stems and encourage them to throw out the blossoms freely and to develope growths for the summer season. We find it thrive best suspended near the glass, so that it can have all the light possible.

Orchids at Eastwood Park, Glasgow, the residence of David Tod, Esq.—This collection of Orchids is doing well, especially the cool kinds, and the Cattleyas which latter are special favourites with Mr. Tod, since they do not require so much heat as some others. There are here many hundreds of Odontoglots, and we noticed some fine forms in bloom, especially in the large house, in which was a grand display of *Odontoglossum Alexandræ*, many of the plants with well furnished spikes. Of *O. Pescatorei* there are also some fine examples with vigorous branching panicles, and other wonderfully fine specimens, having massive pseudobulbs, which had produced noble spikes of blooms. Mr. Ewart, the gardener, takes great interest in the plants, which have much improved during the last two years.

There are two other houses filled with Odontoglots and Masdevallias. Here many of the Odontoglots are smaller, but they are doing well. We noticed two very fine specimens of *Odontoglossum Andersonianum* showing well for bloom, and these, Mr. Tod informed us, are very fine varieties. By their side stood the rare *O. Ruckerii*, just coming into flower. The collection also includes many other rare Odontoglots. In another house, half-span roofed, there is a numerous collection of miscellaneous Orchids, including some fine specimens of *Phalænopsis Schilleriana* and others. There are also good plants of Cattleyas of most of the leading kinds, as well as Lælias and Dendrobiums; and fine specimens of *Cypripedium caudatum* on the front stage are doing well, and had produced many flower spikes. In this house *Odontoglossum Roezlii* grows very freely, and is in a clean and healthy condition, the plants seeming to get the treatment they like. Mr. Tod parted with his fine specimens of this species last year, but the pieces that are left are making good plants.

Adjoining this house is a most splendid Fernery, beautifully laid out, and planted with the best Ferns, Palms, Begonias, &c., which are in vigorous health.—

B. S. W.

LÆLIA HARPOPHYLLA.

LÆLIA HARPOPHYLLA.

[Plate 117.]

Native of Brazil.

Epiphytal. *Stems* slender, terete, six inches to a foot high, invested with sheathing bracts, monophyllous. *Leaves* ligulate, acuminate, about an inch in breadth, dark green. *Peduncle* issuing from a longish terete sheath, and having a raceme about six inches long. *Flowers* four to seven in a raceme, rather small in size, but highly coloured, and very attractive; *sepals* lanceolate, acute, one and three-quarter inch in length, and of a bright orange-vermilion; *petals* similar in size, form, and colour; *lip* three-lobed, the side lobes erect plane, of the same orange colour as the sepals, with the acute upper front angle whitish and somewhat drawn out, the margins just meeting over the column, the middle lobe creamy white, the disk marked with four orange-coloured lines, about twice as long as the side lobes, linear acuminate, recurved, with a crispy margin; keels nearly obsolete.

Lælia harpophylla, *Reichenbach fil.*, in *Gardeners' Chronicle*, 1873, 542; *Floral Magazine*, n.s., t. 372; *Garden*, xxiii., 116, t. 400.

This, observes Professor Reichenbach, is one of those curious plants which "are not decided species, and yet they must be named and registered. It would be *Lælia cinnabarina*, if it had not a stem as thin as that of a showy *Pleurothallis*, a single acuminate leaf, and much narrower and straighter parts of the flower." * * * "Perhaps it is a mule between a *Brassavola* and *Lælia cinnabarina*?" Whatever its origin and direct relationship, there is no doubt that it is one of the most distinct and beautiful of Orchids, as it affords a colour that is not only rare, but exceedingly effective. The flowers may be considered small as compared with the majority of the species of *Lælia*, which, indeed, are generally large-flowered, and rank among the most gorgeous and showy of Orchids, but even in this species they measure fully three inches across. It is a singular fact, that most of the orchidaceous species with orange-vermilion flowers have blossoms smaller than those of other colours. We have often noticed this fact amongst the Orchids that we have met with, and, indeed, it may be observed through nearly all the genera, that there are no large-sized flowers of this orange or vermilion colour. We are, however, hopeful that our energetic collectors may succeed in importing some having this character. It is true the *Sophronites grandiflora* bears highly coloured vermilion-scarlet flowers which may be considered large in proportion to the size of the plant, and a most charming Orchid it is, but we should, nevertheless, welcome some examples, at least, of these brilliant and startling colours among those larger-growing subjects which produce larger flowers.

Our figure of this charming *Lælia* was taken from a finely-bloomed specimen in the well-grown collection of F. A. Philbrick, Esq., of Bickley, under the care of Mr. Heims, who has succeeded in flowering it very successfully. It was a very rare plant a few years ago, and then commanded a high price; but of late years there have been received large importations of it, and it may now be purchased at a more reasonable cost. The varieties vary to some extent in the size of their flowers and in the particular shade of colour, which is found to be the case with nearly all the imported Orchids.

Lælia harpophylla is an evergreen species, with thin stems and long narrowish pointed foliage, of a dark green colour; it grows a foot or more in height, the flower-spike proceeding from a sheath at the top of the stem, and rising about six inches above it, several flowers growing together on the spike. The blossom is of a beautiful bright orange-vermilion, and the lip is edged with white. It is a free-flowering plant, blooming in March, April, and May, and continuing its inflorescence for four or five weeks.

We find it to succeed well potted in fibrous peat, to which must be added good drainage, and a liberal supply of water during the time of its growth. The soil should also be kept moist through the resting season, so that the bulbs and foliage may be kept plump, as the bulbs being very thin, they require a more constant supply of nourishment than those of plants which have bulbs of a more substantial character. We have grown these plants in the Cattleya house, as near the light as possible, for they grow weakly if far off the light, though they require shading from the burning sun. They must also be kept free from insects.

Lælia amanda (*Cattleya Rothschildiana*).—This fine species, or natural hybrid, is cultivated under the two names above quoted, as we learn from a letter which accompanied some flowers of the plant, for which we are indebted to W. E. Brymer, Esq., Ilsington House, Puddleton, near Dorchester, and of which our artist has taken advantage to secure a drawing for the *Orchid Album*. The flowers somewhat resemble in character those of *Cattleya maxima*, but the stems (pseudobulbs) and foliage are quite distinct, being two-leaved, while the flowers are more chaste-looking than those of that species. The plant is very beautiful, and is a decided acquisition to this class of Lælias, the flowers being bright rose veined with rosy purple, and produced in October, at a season when there are but few Orchids in bloom, which makes it all the more valuable.—B. S. W.

ODONTOGLOSSUM ALEXANDRÆ COOKSONII.

[Plate 118.]

Native of New Grenada.

Epiphytal. *Pseudobulbs* oblong-ovate, compressed, diphyllous. *Leaves* ligulate-oblong, acute, channelled and narrowed towards the stalk-like base, of a cheerful green colour. *Scape* radical, supporting a many-flowered raceme exceeding the leaves, and having small acute bracts at the base of the pedicels. Flowers large and beautifully spotted; *sepals* ovate acuminate, the dorsal one rounded at the base into a short broadish claw, the margins revolute and undulate, white, with a few bold irregular blotches of brownish crimson, of which one is placed near the apex, and another forms an irregular transverse bar across the centre; the lateral ones narrowing towards the base; *petals* broadly ovate acuminate, narrowed into a claw at the base, the margins entire, undulated, white like the sepals, with three or four rounder and smaller spots; *lip* oblong-ovate, with the shortly cuspidate apex recurved, the margins toothletted and much crisped, white, with a rich yellow stain on the disk, and a broad brown-crimson blotch on the anterior portion, the edges of the produced lobes inflected yellow striped with red, and broken up into a few short acute teeth; from its base proceed three blunt yellow ridges, of which the central one stops short with a blunt point, and the two side ones are continued into acute projecting yellow horns, having about midway an erect tooth on the upper margin. *Column* arcuately clavate, yellowish, winged, the wings white striped with brown, toothed in the upper part, the teeth large, irregular, and set on behind the margin of the brownish prominent edge of the stigmatic cavity.

Odontoglossum Alexandræ Cooksonii, *Williams and Moore*, supra.

It is with the greatest pleasure that we are now enabled to present to the notice of our readers an illustration of this most splendid variety, which is, no doubt, one of the best of the spotted forms of the Princess of Wales's Odontoglot, *Odontoglossum Alexandræ* (*crispum*). We are greatly indebted to N. C. Cookson, Esq., of Wylam-on-Tyne, in whose honour it is named, for his kindness in sending such ample materials for figuring so splendid a variety. We are constantly receiving examples of charming forms of this beautiful Odontoglot, which is sought after so much by those who grow cool Orchids, for the plants take no more, or but little more, room or heat than the commonest greenhouse plants. Indeed, they are quite easily grown when they get the proper treatment, and are planted in proper material. They must be kept cool during the summer months; and in winter the thermometer may range from 45° to 55°.

Odontoglossum Alexandræ Cooksonii is an evergreen plant, growing like *O. Alexandræ* itself, along with which it was imported. The sepals and petals are white.

irregularly and heavily marked with brownish crimson; while the lip, which is of the same colour—white, and spotted with brownish crimson, bears in addition a golden yellow crest. It flowers during the summer, and lasts for about six weeks in bloom, requiring the same treatment as *O. Alexandræ*, which has been fully explained under Plate 47 of our first volume.

The Orchids at Dunlop House, Ayrshire, the seat of T. D. Cunningham Graham, Esq., include several wonderful specimens that have been many years attaining their present size; while it is remarkable to find such plants in perfect health. We were delighted to find such an example as may here be seen, of *Angræcum sesquipedale*, which from its size must have been one of those brought from Madagascar some years ago by the Rev. W. Ellis. This plant was nearly four feet in height, with two breaks at the bottom, and six flower spikes, perfect as a specimen, and such as those who are fond of well-grown plants would consider worth a long journey to see. Opposite to this were some remarkably fine plants of *Vanda suavis*, one of which is nine feet high in the main stem, with seven fine growths of four feet high, and five smaller growths. We believe we may safely say that this is one of the finest specimens we have ever seen. *Vanda tricolor* is nearly equally fine, having the main stem eight feet high, supplemented by four growths four feet high. There are besides other fine Orchids in the same house, and some good foliage plants, of which there is a fine collection. We have often heard it stated that Orchids cannot be successfully grown unless there is a house set apart for them; but the fact that these Vandas, Angræcums, &c., are grown in company with ordinary stove plants, at once upsets this notion, and proves that any one having a good stove may cultivate in them these most beautiful Orchids, which, we may add, are nearly always in bloom.

After leaving these grand plants we entered the principal Orchid house, wherein we also found many well-grown plants. We specially noticed *Dendrochilum filiforme*, a fine specimen, which had produced a great number of its drooping spikes. *Vanda cærulea* was finely in bloom, as were *Phalænopsis violacea*, with its pretty violet coloured flowers, and *P. grandiflora*, a fine plant of a good variety. We were also glad to see the rare *Cœlogyne ocellata maxima*, a chaste and pretty Orchid. *Arundina bambusifolia*, was well in bloom, with four spikes of its light rose sepals and petals, and rich magenta lip. There were many fine Cattleyas and Lælias making good growths for next year; also *Cypripedium superbiens*, a fine specimen, and one of the best of the barbatum section. Next to it was a very large *C. Dominianum*, a pretty free-blooming hybrid, which continues flowering from the same spike for some months, a new flower coming on as soon as one goes off. There are many interesting plants grown at this place, and Mr. Kemp, the gardener, seems to take great interest in them, which is the way to ensure success.—B. S. W.

Nugent Fitch del.et lith.

CYPRIPEDIUM SPICERIANUM.

CYPRIPEDIUM SPICERIANUM.

[Plate 119.]

Native of Assam.

Epiphytal. *Stemless*, with spreading distichous evergreen foliage. *Leaves* few, oblong-ligulate, sub-acute, keeled beneath, and there purple-spotted towards the base, six to eight inches long or more, thick and leathery in texture, of a dull glossy green colour. *Peduncles* erect, issuing from an oblong compressed basal sheath, dark reddish-purple, puberulous, eight to ten inches high, the flower emerging from an ancipitous linear-oblong obtuse bract shorter than the purplish three-ribbed ovary. *Flowers* about three and a half inches across, with a large pouch or lip; *dorsal sepal* large, standard-like, the base green, hairy, cuneate, suddenly expanding into an ovate, bluntly apiculate, transversely oblong lamina, two inches broad, the sides of which are recurved, auriculæform, white, or in some forms tinted with pink, the keel or central line being marked with a well-defined purple stripe; *lateral sepals* short, connate, ovate, acute, whitish-green; *petals* ligulate or linear-oblong, laterally deflexed, the margins neatly wavy, but most so upon the upper side, pale yellowish green, with a median purple line and numerous purple freckles over the surface; *lip* large, the pouch somewhat bell-shaped, with round everted auricles on each side, and a broad acute sinus in front, glossy, olive-green, with the anterior part dark reddish-brown. *Column* short, hairy. *Staminode* subquadrate, obsoletely three-lobed in front, mauve-purple, with a white border, and yellow markings in the centre.

Cypripedium Spicerianum, *Reichenbach fil.*, in *litteris ad cl. Veitch*, December, 1878; *Id. Gardeners' Chronicle*, n.s. xiii., 363; *Id. L'Illustration Horticole*, t. 473; *Id. Xenia Orchidacea*, t. 231; *Gardeners' Chronicle*, n.s. xiii., 40, fig. 7 (woodcut); *Hooker fil., Botanical Magazine*, t. 6490; *Moore, Florist and Pomologist*, 1882, 179 (woodcut); *Garden*, xvii., 169 (woodcut); xxiii., t. 378 (coloured figure of blush variety).

There is, no doubt, that this *Lady's Slipper*, which was first received in England by Herbert Spicer, Esq., of Woodlands, Godalming, in whose honour it is named, is one of the most interesting and distinct species that has been introduced of late years. It was also at one time very rare, and realised high prices, being much sought after in consequence of its being so different from the other species known in cultivation; but now that it has been brought home in larger quantities it is more accessible. The plant may be cultivated in any warm moist house, and is of free-growing habit, as well as free in producing its blossoms. There are several slight variations differing in the size and colour of their flowers. That which we here figure has the dorsal sepal white, while some plants have a shade of rose colour towards the base. Our drawing was taken from a plant in the Nurseries of Messrs. Hugh Low & Co., of Clapton, who received a fine importation about two years ago.

Messrs. F. Sander & Co. have also added to our stock of this species; and we learn from them that "it grows on almost perpendicular rocks, from which the plants are loosened with sticks, and so let down, during the months of May and September. The water runs over these rocks—not in streams, of course, but sufficient water hangs round the plants to keep the soil and moss which is about them as wet as water itself. During the winter months this Cypripedium should not be grown hot."

Cypripedium Spicerianum is a dwarf evergreen plant, with light glossy green foliage, six inches or upwards in length, and throws up its flowers on purplish downy stalks, some eight or ten inches above the foliage. The flowers are very peculiar, from the singular twisting of the dorsal sepal, which is white, or in some varieties suffused with rose, green at the very base, and having a broad purplish stripe along the centre; the petals, which are prettily waved especially along the upper edge, are green, with a central stripe and numerous dots of purple; and the lip is large, and of a brownish-green. The staminode in this species is very brilliant and conspicuous, being of a beautiful mauve-purple, with a white border. The plants bloom during September and October; and when a number of them can be obtained, and their growth regulated, they may be kept flowering for a much longer time, as each individual blossom lasts several weeks in beauty.

This interesting novelty requires the same treatment as *C. Stonei*, that is, to be potted in rough fibrous peat, intermixed with some charcoal and sphagnum moss; good drainage must also be afforded, as the roots must be kept moist during the growing season; in fact, they should never be allowed to get dry, as it has no thick fleshy bulbs or stems to support it. We find it do well in a warm house with other Cypripeds. Pot culture is the most suitable for it, but it will succeed in baskets suspended from the roof, if shaded from the sun.

Odontoglossum Alexandræ.—We have received a splendid variety of this popular Orchid from J. S. Bockett, Esq., of The Hall, Stamford Hill. The inflorescence was very distinct, and consisted of flowers of good form and substance, with the margins beautifully serrated. The sepals and petals were white flushed with rose, the sepals being in addition spotted with reddish brown, and the white lip was also spotted with brown. The flowers were, moreover, nicely regulated on the spike, so that the entire inflorescence had a particularly good appearance.—B. S. W.

J.Nugent Fitch del.et lith

DENDROBIUM DEAREI.

DENDROBIUM DEAREI.

[Plate 120.]

Native of Mindanao, Philippine Islands.

Epiphytal. *Stems* stoutish, many-leaved, two to three feet high, marked by numerous furrows, and invested by the sheathing leaf bases. *Leaves* densely placed, oblong-ligulate, emarginate at the apex, leathery in texture, two inches or more in length, sub-deciduous. *Racemes* numerous (six to nine) on one stem, issuing from the uppermost joints, each bearing from ten to eighteen flowers, terminal or sub-terminal. *Flowers* three inches across, pure white, exceedingly chaste and delicate, attached by three-winged ovaries; *sepals* lanceolate, acuminate, keeled; *petals* rhomboid-oblong obtuse; *lip* oblong obtuse, apiculate, the anterior part crenulate, with an obtuse angle on each side towards the base, which is somewhat cucullate, pure white, like the rest of the flower, but with a small blotch of pale green on the disk, crossed by about half a dozen green lines; *spur* or *chin* extinguisher-shaped. *Column* much dilated at the base.

Dendrobium Dearei, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xviii., 361

This new species, which was imported last year, has now bloomed in many collections, and has proved to be one of the most beautiful and chaste amongst white-flowered Orchids—one that every Orchidophilist will admire, since it has so many good qualities to recommend it, being free-blooming, of a pure white, and lasting long in flower; moreover, each flower can be cut separately for button-hole or bouquet use, and the plant is also very effective for decorative and exhibition purposes during the summer months. Thus, by having a goodly number of plants, it may be brought in for several successive months; and the stronger the plant is grown the finer will be its flowers. The individual plants vary somewhat, which may be caused partly by some specimens being weakly, and in that case they will improve as they gain strength. It appears to be a very free grower, but time must prove that, and also if the plants are of long duration or not. Many of our Dendrobes last but a few years, and then require to be re-imported. Our sketch is from a well-grown plant in the grand collection of Sir Trevor Lawrence, Bart, M.P., where we saw several other examples in bloom, some of them being very strong, and bearing as many as thirty flowers on a single stem.

Dendrobium Dearei, named in compliment to Colonel Deare, by whom it was first brought forward, is partly deciduous, losing the older leaves after it has bloomed; this is its aspect at present, but when we get it into a good growing state its foliage may perhaps stand for a longer time. It produces its flowers in

spikes from the top of the stem, and also from the side towards their upper end, many together on the spike; they are pure white, with a little delicate green blotch and veins in the hollowed-out throat. The blooming season occurs during the summer months, and the individual flowers last for several weeks in beauty.

This species will do either in baskets or pots, filled with rough fibrous peat, sphagnum moss, and good drainage, to which a few small lumps of charcoal may be added. It will also thrive on blocks, with live sphagnum moss about the roots; but cultivated in this manner the plants require a more abundant supply of moisture during the growing season. It is a plant that likes to be grown near the light, and the East India house seems to suit it well. Both those in pots and those in baskets require to be kept moist at the roots during their period of growth; and, like other species of Dendrobe, this enjoys a good season of rest to cause it to flower more freely. The plants must be kept free from insects, and can be propagated by dividing the clusters of stems, leaving two or three to each division. After they are separated they should be put into a shady place until they begin to grow, when they may be allowed more light.

Masdevallia Chimæra.—We saw a wonderfully fine plant of this curious Orchid in the collection of the Marquis of Lothian, at Newbattle Abbey, Dalkeith. N.B. The plant was suspended from the roof of the house, and bore several finely expanded flowers, each measuring twenty inches across from the tip of one tail to that of the opposite one. The flowers were large in all their parts, of a dark purple colour, beautifully spotted and clothed on the interior surface with dark hairs, which is a peculiar feature of this section of the Masdevallias. Mr. Priest was kind enough to send us some flowers of this species for figuring, but unfortunately they withered before they reached us. It has always been so when flowers of this species have been sent to us, as they last for so short a time when cut from the plant.—B. S. W.

CATTLEYA LABIATA PALLIDA.

[Plate 121.]

Native of Brazil.

Epiphytal. *Stems* (pseudobulbs) erect, club-shaped, furrowed in age, eight to ten inches high, monophyllous, evergreen. *Leaves* oblong obtuse, leathery in texture, about ten inches long, of a lively green colour. *Scape* two-flowered, issuing from a short oblong bluntish sheath. *Flowers* large, six to seven inches deep, and six inches broad, superbly coloured; *sepals* lanceolate, three and a half inches in length, plane, recurved at the tip, of a delicate magenta blush, the lateral ones slightly smaller, of the same colour, with a paler central band, streaky; *petals* broadly ovate (two and a half inches wide), finely undulated at the margin, narrowed towards the base, of the same colour as the sepals, but with the base of the costa whitish; *lip* upwards of three inches long, obovate, the basal lobes connivent over the column, faintly stained with magenta, the front edge at the mouth of the tube spreading, of a creamy yellow, and undulated; the front lobe roundish, expanded, very finely undulated, deeply emarginate, the blush-tinted edge enclosing a band of creamy yellow, which becomes narrower towards the apex, where the roundish blotch (one and a half inches wide) of rich deep magenta runs out nearly to the margin, behind which, and extending backwards within the throat, is a radiate series of orange-yellow veins, with magenta coloured veins on each side within the tube. *Column* clavate, enclosed by the base of the lip.

Cattleya labiata pallida, *Hort.*; *Williams, Orchid Growers' Manual*, 5 ed., 122.

The fine variety of *Cattleya labiata* here illustrated, which was introduced many years since, is still quite rare, indeed, as much so as the type itself. It is a most beautiful variety, and the plant, though seldom seen, is a most useful one, since it blooms at a time when there are comparatively few Orchids in flower, although some other of the Cattleyas that have been introduced during the last few years blossom at the same time. The plant from which our drawing was taken bore forty-eight expanded flowers, and was a grand example of good cultivation. It was grown in the superb collection of the Comte de Germiny, at Gouville, France, and was most perfect as regards foliage and flowers. Mr. Rondeau, the gardener, seemed delighted to show us this plant, as he might well be, as it made a grand floral picture. We gave a description of this fine collection after our visit to Gouville. as noted under Plate 108.

Cattleya labiata pallida is an evergreen plant, with the stems or pseudobulbs about eight inches in height, supporting one thick bright green leaf, about ten inches in length, and is one of the most compact-growing Cattleyas we have. The

sepals and petals are of a deep rose colour, the lip of a yellowish white, with a large patch of bright magenta, the fore part margined with pale rose, and the throat bright orange. It blossoms in July, August, and September, and continues in beauty from three to four weeks.

This plant is best grown in a pot, with rough fibrous peat, perfect drainage being secured by filling the pots three-parts full with crocks, and mixing a few lumps of charcoal with the top of the drainage, and also with the peat, as this keeps the latter more open; the roots, moreover, like to cling to it, so that it is very beneficial to the plants. The plants should be well elevated above the top of the pot, and then the roots will run all over the soil among the charcoal and fibre, which they delight to grow in. When potted in this way the material keeps sweet for a much longer time, as the water is directly carried away and cannot become stagnant about the roots. The great secret is to have good drainage and sweet material for the roots to work in. If the soil gets bad remove it, and give the plants a fresh supply without injuring the roots.

Cattleyas do not like to be kept too moist at the roots even in their growing season; and when their growth is completed only just sufficient must be applied to keep their bulbs and foliage plump. We find it beneficial when Cattleyas are in vigorous growth to syringe the plants slightly between the pots, and should they have roots outside syringe these also a little, as it will invigorate them. Care must be taken not to wet the young growths, as water is apt to rot them, or cause them to damp off. It is an excellent method in the hot days of summer to pour water on the tables every morning and afternoon, giving air whenever there is an opportunity. Let them have all the light possible, using the blinds during the time the sun is hot, but never allowing the blinds to be down when the sun is on the decline. A great deal of the success of the plant depends on getting strong and well matured growth, which also causes the flowers to come more freely, to open of a brighter colour, and to last longer in bloom.

We find *Cattleya labiata pallida* to thrive best at the warmest end of the Cattleya house. It must be kept free from insects, as cleanliness is with all plants a great help towards successful development. The thrips and white scale attack these, and if not removed their foliage soon becomes disfigured, and the growth is often mortally injured.

J. Nugent Fitch del et lith.

CYPRIPEDIUM CURTISII.

B.S. Williams Publ.

CYPRIPEDIUM CURTISII.

[Plate 122.]

Native of the Sunda Isles, Asiatic Archipelago.

Epiphytal. Acaulescent. *Leaves* distichous, coriaceous, oblong acute, recurved, channelled and equitant at the base, of a dull green, the upper surface boldly chequered with oblong markings of darker green, the under side keeled with the surface paler and unspotted. *Scape* (peduncle) pubescent, dull wine-purple, with a short compressed ovate bract just below the ovary, which is green striped with brown. *Flowers* solitary, remarkable for the small dorsal sepal and large pouch; *dorsal sepal* short, ovate acuminate, curving from the base upwards, greenish with a white edge and about ten greenish-purple nerves; *lateral sepals* united, very small, ovate, greenish with green veins; *petals* measuring about four inches from tip to tip, linear-oblong, acute, wavy, recurved at the tips, greenish in the upper, white in the lower half, indistinctly veined with purple, and thickly spotted with small purple dots, the margin copiously fringed throughout with short purple hairs; *lip* with a large oblong bluntly-rounded pouch (one and a-half inch long) of a dull wine-purple with a few prominent darker purple veins, the upper edge of the sac with narrow side angles greenish inside, the basal part with the edges rolled inwards and dotted with purple. *Staminode* transversely oblong, emarginate behind and having in front an inwardly curved tooth on each side with an apiculus between, pale yellowish green, with darker green reticulations in the centre.

Cypripedium Curtisii, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xx. 8.

This new species is both distinct and rare. It is, moreover, very beautiful, and one that every lover of Cypripediums will be looking after. There are some cultivators who do not care for this class of Orchids, and there are some others who grow all the species and varieties they can procure, making the collecting of them a hobby. We can fully understand the pleasurable feelings of these latter, as the plants are ornamental in foliage as well as in flower, thus always keeping up a good appearance; they are also very easy of cultivation, and most of them take but little room to grow in. There are now so many species and varieties—blooming, too, at different periods of the year—that a good display of flowers may always be had from them; and there are some of the species that will do in the Odontoglossum and intermediate houses, added to which their long-enduring quality scores as a great point in their favour. We are never without Cypripediums in bloom.

The specimen we are now figuring was flowered by J. Day, Esq., of Tottenham, who, we are glad to say, after parting with one of the largest and most rare collections of Orchids at that time existing, is now fast forming another collection. We have

no hesitation in saying that Mr. Day has, to a greater extent perhaps than any other amateur Orchidophilist, a correct knowledge of the genera and species of Orchids. His first collection was of many years' standing, and was the most complete as regards species and varieties that we ever saw; he not only had the plants under cultivation, but had besides many drawings taken by artists, and also took pleasure in sketching and painting them himself. We believe he still takes sketches of all the novelties which he himself blooms, as well as of some of those flowered by other growers, being a most proficient artist. All this shows what an intense love he has for this noble class of plants.

Cypripedium Curtisii, as will be seen by our drawing, is an evergreen plant with charmingly spotted foliage. The flowers are well thrown up above the foliage the dorsal sepal is white veined with green, the petals crimson flushed with green and faintly veined and spotted with purple, and margined with a dense fringe of purple hairs, while the lip is large and of a reddish brown hue. This species blooms in July, and continues in beauty for several weeks. It requires the same treatment as *C. barbatum* and others of that class, and from its appearance we conclude that it will be found to be a free-growing as well as a free-blooming plant.

Zygopetalum Burkei.—This new species was exhibited by Messrs. Jas. Veitch & Sons at the meeting of the Royal Horticultural Society, on November 13th, and was greatly admired both on account of its distinct character and novel appearance. The pseudobulbs are about three inches long, carrying long narrow leaves; the sepals and petals are green transversely barred and spotted with brown; and the lip is white, and furnished with a crimson ruff or frill. It has been introduced from Guiana. Altogether this is a most distinct and desirable species, and we hope shortly to figure it.—H. W.

Cymbidium elegans.—W. McDonald, Esq., Woodlands, Perth, has kindly sent us a fine spike of this rare and distinct species. The spikes are very dense, and contain a large number of yellow flowers, which are very distinct. Mr. McDonald informs us that his plant bears seven spikes of flowers, a rather unusual number and a fact which we think worth recording.—H. W.

J. Nugent Fitch del. et lith.

B.S. Williams

LÆLIA GRANDIS.

LÆLIA GRANDIS.

[Plate 123.]

Native of Bahia, Brazil.

Epiphytal. *Stems* (pseudobulbs) club-shaped, furrowed in age, about eight to ten inches in height, monophyllous. *Leaves* oblong-ligulate acute, leathery and rigid in texture, dark green, growing to about ten inches in length. *Scape* emerging from an oblong pale green compressed bluntish bract or spathe, about four-flowered, the racemes erect. *Flowers* rather large, measuring upwards of four inches in each direction without being spread out; *sepals* lanceolate, reflexed and much twisted, of a pleasing nankin or fawn colour; *petals* somewhat broader than the sepals, also convex and curled, finely toothed at the edge, of the same colour as the sepals; *lip* three-lobed, the lateral lobes rolled over the column at the base, spreading in front, where they are beautifully veined with magenta-rose, the middle lobe rounded with an apiculus, prettily crispate-undulate, creamy white pencilled over but more sparingly than the side lobes with delicate magenta lines; thus the whole surface of the lip is radiately venose with magenta-rose. *Column* club-shaped, concealed by the infolding of the lateral lobes of the lip.

Lælia grandis, *Lindley*, in *Paxton's Flower Garden*, i., 60, fig. 38: *Id.*, *Gardeners' Chronicle*, 1864, 1202; *Flore de Serres*, vii., 238, woodcut; *Id.*, xxiii., 297, t. 2473; *Hooker fil.*, *Botanical Magazine*, t. 5553; *Regel*, *Gartenflora*, t. 698; *Williams*, *Orchid Grower's Manual*, ed. 5, 205.

Bletia grandis, *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 424.

We have now the satisfaction of submitting to our readers an illustration of a very distinct plant, one that is little known, and which is extremely rare. The flowers are most remarkable in the singular colour of the sepals and petals, and in the chaste and prettily marked lip or labellum. *Lælia xanthina* is often sold for this plant, which it much resembles in growth, but the flowers are totally different, as may be seen by a comparison of our present plate with the figure of the true *L. xanthina*, published in the first volume of the *Orchid Album* (Plate 23). This comparison will show that the two species are quite distinct in the form of their flowers, as well as in the colour and markings of the lip. We are indebted for the opportunity of figuring it to Baron Schröder, of The Dell, Staines, in whose fine collection it bloomed in June last, and was very much admired by those who saw it.

Lælia grandis is an evergreen plant, with the stems or pseudobulbs about eight inches in height, and supporting a dark green leaf about ten inches in length. The flowers are produced several together from a sheath at the apex of the stems;

the sepals and petals are nankin-yellow, the lip cream-coloured distinctly veined over the interior surface with rose colour. The plant blooms in May and June, and the flowers last in beauty for two or three weeks.

This species is best grown in a pot with rough fibrous peat and sphagnum moss, and should have good drainage, which is very essential for securing the healthy condition of the roots of the plant; indeed, unless a plant makes good roots, and they are kept in a healthy condition, there is not much chance of its doing well for any length of time. When Orchids are making their roots, it is important that all insects, and other destructive pests, should be kept away from them, so that their root-points may not be eaten away, but kept in a growing state. We have often seen the roots of Orchids eaten off by cockroaches and wood-lice, both of which are most destructive to the roots of the plants.

This *Lælia* will also do well in baskets or pans suspended from the roof, or will even succeed on a block of wood; but if grown in this way the plants will require more attention as regards moisture at the roots. It requires the same general treatment as *L. purpurata*, and should be grown in similar materials.

CYMBIDIUM AFFINE.—At the meeting of the Royal Horticultural Society, November 13th, there was exhibited by A. Wyatt, Esq., of Cheltenham, a grand specimen of this rarity, bearing two spikes, one with thirteen, the other with six flowers; it is altogether distinct from the other species of *Cymbidium*, and seems intermediate between *C. Parishii* and *C. Mastersii*. The flowers are produced on upright spikes: the sepals and petals are white, and the lip white, having a few rosy purple blotches and stains in the throat and on its anterior part. The style of growth resembles that of *C. Parishii*, and it has broad foliage as in that species. It was deservedly awarded a First Class Certificate. Our artist has taken a sketch of the plant, and we hope soon to be enabled to present a representation of it to our subscribers.—H. W.

Nugent Fitch del. et lith

VANDA SANDERIANA.

B.S. Williams Publ.

VANDA SANDERIANA.

[Plate 124.]

Native of Mindanao, Philippine Islands.

Epiphytal. *Stems* short, tufted, densely leafy. *Leaves* distichous, recurved, rigid and leathery in texture, broadly ligulate, channelled, obliquely cut away at the acute apex, evergreen. *Racemes* axillary, many-flowered. *Flowers* large (fully four and a half inches across), and from the parts lying in one plane having a *primâ facie* resemblance to those of *Odontoglossum vexillarium*; *dorsal sepal* roundish, obovate (one and three-quarter inches by two inches), of a delicate rosy blush on both surfaces, slightly stained with buff-yellow at the base; *lateral sepals* divergent, but overlapping, obliquely and broadly obovate (two and a quarter inches by three inches), pale nankin on the outer surface, the inner of a deep greenish yellow, with about nine longitudinal prominent veins of a bright purplish crimson, extending from the base to within a quarter of an inch of the tip, and connected by tranverse lines of the same colour, breaking off into dots towards the margin; *petals* much smaller than the sepals, obovate-cuneate (one and a quarter inch by one and a half inch), the principal portion rosy blush like the dorsal sepal, but the lower edge tinged with yellow, and bearing a few purple spots; *lip* small, less than an inch broad, spurless, the basal part (hypochil) concave, pale purplish red, ribbed exteriorly with nankin-yellow, the front lobe (epichil) shortly stalked, bluntly heart-shaped, with the tip strongly recurved, chocolate-purple, with three prominent ridges or crests extending from base to apex, where the middle ridge just falls short of the two outer ones. *Column* very short, pale yellowish, almost touching the sides of the concave basal lobes of the lip. *Ovary* hexangular, pink.

Vanda Sanderiana, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xvii., 588; *Id.* xx., 440, figs. 67 (habit), 68 (inflorescence).

Esmeralda Sanderiana, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xvii. 588 in note.

We have no hesitation in stating that this is the most wonderful Orchid that has been introduced for many years—one which all growers will be delighted to possess, as it belongs to a most noble section of the Orchid family, of which there have long been many beautiful species in cultivation. That which we now illustrate, however, as regards size, far eclipses its congeners, since it produces the largest and most extraordinary flowers of any that have yet been brought to light. The Vandas are conspicuously beautiful in their foliage as well as in their flowers, and the introduction of this magnificent species will, we cannot doubt, be the means of inducing Orchid growers generally to take a more lively interest in their cultivation. What can be more charming than a fine variety of *Vanda cærulea*, or *V. suavis*, or *V. tricolor*, all of which, moreover, bloom at the same time, and

some of which blossom three times in the year; this, indeed, may be the case with *V. Sanderiana*, for if we may judge from the remnants of spikes which have bloomed in their native country, and are found on the imported plants, we may reasonably expect the cultivated plants to flower quite freely.

This will be a scarce Orchid for some time to come, if our collectors are not more successful in getting it home, for hundreds of plants have unfortunately been lost on the voyage, and we learn from Mr. Sander that case after case has arrived with all the contents dead; thus of the numerous importations a few plants only have reached England alive. Mr. Sander further informs us that this magnificent Orchid comes from Mindanao, a large southern island of the Philippine group, "where it grows, high up on old trees perched upright between the branches in situations which are not very shady. It requires a good heat and much moisture. It flowers in October in its native habitat; and the blooming of Mr. Lee's plant would seem to indicate that in Europe also the plant will be autumn or early-winter flowering. This, however, has yet to be proved, as the time of the flowering of Orchids in their native country rarely corresponds with that of their blooming in this country, the difference, in many cases, being as much as six months."

Our drawing was taken from a fine plant, imported, it appears, by Messrs. Low & Co., and now in the choice collection of W. Lee, Esq., Downside, Leatherhead, who has had the good fortune to bloom this magnificent species for the first time in Europe, under the care of Mr. Woolford. This plant produced three spikes of its gorgeous flowers, one spike having twelve blossoms, and another eight, which, we think, shows that it will bloom freely. Each flower is considerably over four inches in diameter; the dorsal sepal is, like the petals, of a blush-pink colour, but is distinctly larger than the latter, which have a dash of greenish yellow and a few crimson spots along their lower edge; the lateral sepals are also much larger and broader than the petals, being fully two inches in diameter, of a rich greenish yellow, distinctly and beautifully reticulated with purplish-crimson over the whole of the interior surface; the lip is dull brownish crimson, and has three keels along the centre, extending from the apex to the base. The plant blooms in September and October, and continues in blossom during several weeks.

We suppose this *Vanda* will require the same treatment as *Vanda suavis*, but time alone can prove this. We recommend it to be grown in the East India house, in a basket, with sphagnum moss and good drainage, and hung up as near the light as possible, since it appears to be a plant requiring that mode of treatment. We have one growing in this way suspended near the glass, and it is making fresh roots, but it does not seem to be fast growing. The fine specimens that have reached this country are from two to three feet high. We find it to keep healthy planted in crocks until the roots make a good start, after which some live sphagnum moss is placed in the pot or basket, and these being provided with plenty of drainage, the roots cannot possibly have any stagnant moisture hanging about them.

CATTLEYA MOSSIÆ HARRYANA

CATTLEYA MOSSIÆ HARDYANA.

[Plate 125.]

Native of La Guayra.

Epiphytal. *Stems* oblong, club-shaped, furrowed in age, and invested in the lower part by whitish membranaceous sheaths. *Leaves* leathery, ligulate-oblong obtuse, recurved at the tip, deep green. *Scape* about two-flowered, issuing from the broad compressed leafy sheath, both scape and pedicels tinted with reddish purple. *Flowers* large, exceedingly attractive from their peculiar striate coloration, the colours very irregularly distributed, no two corresponding parts being alike in marking; *sepals* lanceolate, slightly recurved, purplish blush, or very dilute lilac-purple, irregularly and striately blotched in the direction of the veins with rich magenta-purple; *petals* broad, ovate, undulated, irregularly striate-blotched with magenta-purple on a very dilute lilac-purple ground, in the same way as the sepals; *lip* obovate, emarginate, with a densely frilled edge, the basal lobes enfolding the column of a deep rosy magenta on the outer surface, the middle lobe with a golden blotch on the throat and disk, the front portion striately marked with rich deep magenta-purple, outside which is an irregular zone of white, more or less traversed by pale purple veins, the extreme margin being pale purple; otherwise as in the type.

Cattleya Mossiæ Hardyana, *Williams and Moore*, supra.

This is the most extraordinary variety of *Cattleya Mossiæ* that has ever come under our notice, and, moreover, it is not only most distinct but most beautiful. Its peculiar coloration is constant, for we have received flowers of it in two successive seasons, and the colour and style of marking have not appeared to vary in the least. We believe it has bloomed three years in succession. Our figure was taken from the fine plant in the noble collection of G. Hardy, Esq., Timperley, Cheshire. This plant we believe is unique, there having been only one example with striped flowers obtained from the whole importation, and that was secured and first flowered by Mr. Hardy, in whose honour it is now named. We know of no other like it, and we must congratulate the owner on his good fortune in obtaining and blooming a variety with such wonderfully variegated flowers.

There are many other fine species of Cattleya in this collection, and these bloom magnificently, and are grown to great perfection. They are cultivated in good-sized houses, and have plenty of light, which is a great necessity to these plants, and they also get the proper degree of heat and of moisture, and the annual rest, together with perfect cleanliness, all which seems to be thoroughly understood by Mr. Hill, the gardener, for the plants appear in the same vigorous state of health year after year, and still go on improving.

Cattleya Mossiæ Hardyana is like the type in its habit of growth, having similar evergreen foliage, and producing its gorgeous flowers in the same way. The sepals and petals are of a pale blush-rose colour, curiously blotched and veined with rose-purple, while the lip is a bright rose-purple, margined with dark rose, and the throat orange-yellow. It blooms during May and June, and lasts about three weeks in perfection.

The plant requires the same mode of treatment as that given to the other forms of *Cattleya Mossiæ*.

Orchids in Vineries.—We frequently hear it remarked that Orchids cannot be cultivated in this or that garden for want of a suitable house or houses to grow them in. Now, we have repeatedly alluded to the fact that Orchids do well when cultivated in houses in which other classes of plants besides them are grown. We met with a convincing illustration of this in November last, when calling upon John Heywood, Esq., of the Grange, Stretford, near Manchester. Here we found houses allotted to Orchids, and amongst them one cool plant-house in which there were many fine Odontoglots, and some good specimens of *Epidendrum vitellinum majus*, &c. We, however, wish chiefly to draw attention to the fact, that we also found here two span-roofed Vineries, in which there were good crops of Grapes, such as Muscat, Black Alicante, and others; and beneath these Vines, standing on the curbs, or suspended from the roof, was growing a collection of *Dendrobiums*, occupying the whole length of the two houses, and among them many fine specimen plants, with well ripened bulbs, and which promise well for bloom. We particularly noted many well-grown plants of *D. Wardianum giganteum*, *D. Devonianum* with very strong bulbs, and *D. crassinode*. There was a fine plant of *D. Ainsworthii*, which is still rare, and is one of the best hybrids yet raised, as it bears fine handsome flowers, and is free in producing them. *D. thyrsiflorum* and *D. densiflorum* were also well represented; and there were fine plants of *D. nobile*, one of the most useful for winter decoration, promising well for bloom. Mr. Elphinstone, the gardener, informed us that these plants had been grown in the same houses for some time past; and they are found to succeed well with the treatment given to the Vines. Any one, therefore, having good Vineries may use them for Orchids as well as for Grapes, as they are at the Grange, thus making a double use of the houses, and saving expense. Besides the cool Orchid house already mentioned, there is a good house of *Cattleyas*, *Lælias*, &c.; and another full of fine *Vandas*, and such other Orchids as *Phalænopsis*, *Aërides*, *Cypripedium*, *Odontoglossum vexillarium*, and many others that require a similar temperature.—B. S. W.

WARSCEWICZELLA WENDLANDII DISCOLOR.

WARSCEWICZELLA WENDLANDI DISCOLOR.

[Plate 126.]

Native of Costa Rica.

Epiphytal. *Stemless*, ebulbous, producing only a tuft of leaves and flowers from the crown of the roots. *Leaves* cuneate, oblong-ligulate, acute, somewhat plicate, broad and channelled below, amplectant at the base, of a light green colour. *Scapes* solitary, issuing from the leaf axils, about half as long as the leaves, and furnished in the upper part with a two-valved bluntish spathe, which is rather shorter than the united ovary and pedicel. *Flowers* moderately large, measuring from four to five inches in their broadest diameter, stellately expanded, interesting from the peculiar form of their lip, and pleasing from the contrast of their colours; *sepals* lanceolate, "white," the dorsal one erect, the lateral ones somewhat deflexed; *petals* of the same form and colour, spreading, somewhat twisted; *lip* projected forwards, ovate-cordate, the apex recurved, about an inch and a half broad, the edges multilobulate and much undulated, white, the centre plane, with a large oblong blotch of violet-purple marked longitudinally by about seven darker purple lines, the base constricted, white, with a short chin behind; frill or ruff small, with about seven to nine violet-purple stripes, semilunate, gradually diminishing backwards till lost in the chin or mentum. *Column* white, thickened upwards, semiterete.

Warscewiczella Wendlandi, *Reichenbach fil.*, in litteris.

Zygopetalum Wendlandi, *Reichenbach fil., Beitrage zu einer Orchideenkunde Central-Amerikas*, 74.

— *Var.* discolor, sepals and petals yellowish green.

Warscewiczella Wendlandi discolor, *Reichenbach fil.*, in litteris ad cl., Smee.

Both by Reichenbach in his various writings, and by Bentham in the recently published *Genera Plantarum*, the group named *Warscewiczella* is included under *Zygopetalum*. Putting aside the question of minute botanical details, we prefer, in this case, to be rather guided by habit, since habit is so important a factor in all that concerns cultivation. Thus, while the species and varieties of *Zygopetalum* produce pseudobulbs, those of *Warscewiczella* are ebulbous, and this difference necessitates a material distinction in the mode of cultivation to be adopted for the well-being of the two groups.

The variety of *Warscewiczella Wendlandi*, which we now illustrate, is a well marked form as regards the distinctive colours of the sepals and the labellum or lip: it is a small plant of compact growth, taking but little room, and blooming very freely. Our drawing was taken from a healthy specimen in the interesting collection of A. H. Smee, Esq., of the Grange, Carshalton, who is trying many experiments in

Orchid culture, some of which we have no doubt will succeed, and throw light on obscure points of management. The present time offers a good opportunity to make experiments with Orchids, as it can be done without the risk of incurring any serious expense should they fail, for many kinds of Orchids are cheap, and of course those which are costly would not in this way be exposed to risk.

Warscewiczella Wendlandi discolor, the particular form here represented, is an evergreen plant, with light green foliage, which arises from a short stem scarcely forming a pseudobulb, and grows to the height of some six or eight inches. The flowers proceed singly from the axils of the leaves, and have the sepals and petals of a yellowish green, while the broad squarish lip, which is white at the edge where it is deeply cut and much crisped, bears a large violet blotch in the centre. The perfume is very delicious. The plant flowers during August and September, and lasts for about two weeks in beauty.

This plant is allied to the genera (or sub-genera) *Bollea* and *Warrea*, and requires the same kind of treatment as is successful with them. We have seen them grown in different ways, and thriving well, but they are plants that require careful treatment, and must never be neglected. It is necessary always to give them close attention as regards the supply of moisture at the roots, for they have no thick fleshy pseudobulbs to support them should the artificial help fail. They grow in tufts of small short crowns scarcely forming bulbs, and it is from these that the leaves are developed. Being small growing plants, we find they do well on blocks of wood, with the roots surrounded by living sphagnum moss, the blocks being suspended from the roof. They must not have too much sun; indeed, as the leaves are of a thin texture, they require shade, but with all the light that can possibly be given them without exposing them to burning sunshine. We find the cool end of the East India house to suit them, and here we give them a good supply of moisture at the roots during the summer season. They must always be kept moist, and should not even during winter be allowed to get dry, for they are nearly always growing, and so require a continual supply of sustenance. If grown in pots or in pans, they will require less moisture than when on blocks. One thing must always be borne in mind, and that is to keep them free from insects.

Epidendrum vitellinum.—A very fine spike of this charming species was received by us from H. Shaw, Esq., of Buxton; it was eighteen inches in height and bore twenty-one of its orange-scarlet flowers, of good size and stout substance. This was certainly the best spike that has ever come under our notice. Mr. Shaw calls it *E. vitellinum giganteum*. The plant it appears has borne five spikes equally as good as the one which was sent to us. There is no doubt that it is a gigantic form of the old species, much finer than some of those called *majus*, which generally flower in spring and summer while this one blooms in December, which fact alone makes it a valuable acquisition, as we have so few Orchids of this colour blooming at that time of year, December and January.—B. S. W.

ODONTOGLOSSUM ALEXANDRAE ATRORUBRUM

R.G. Williams. Delt.

ODONTOGLOSSUM ALEXANDRÆ STEVENSII.

[Plate 127.]

Native of New Grenada.

Epiphytal. *Pseudobulbs* ovate-oblong, compressed, generally in age becoming tinged with purple, diphyllous. *Leaves* ligulate-oblong acute, channelled towards the base, of a bright light green colour, often with one or two accessory ones from the base of the pseudobulbs. *Scapes* radical, issuing from the axils of the accessory leaves, and supporting a many-flowered raceme, or, in very vigorous plants, a panicle of flowers, having small acute bracts at the base of the pedicels. *Flowers* large, and handsomely-spotted; *sepals* lanceolate-acuminate, undulately recurved at the edge, white, marked with three large oblong blotches of pale cinnamon-brown, the two lower bands transverse; *petals* broader, ovate acuminate, the margins toothed, much undulated, the surface freely spotted all over, especially towards the margins, with the same tint of pale cinnamon-brown, the spottings forming smaller roundish or oblong dots, which are sometimes confluent, while numerous smaller ones occupy the base; *lip* oblong-ovate acuminate, with a deeply cordate base, and a toothed undulated margin, the disk occupied by a broad patch of yellow, the other parts white, with one large conspicuous blotch of brown near the apex, and a few smaller ones behind it, the base marked with numerous small crimson dots, radiately cristate, with two of the lamellæ elongated, and most of them marked by a crimson line.

Odontoglossum Alexandræ (crispum) Stevensii, *Williams and Moore*, supra.

We have had an almost endless variety of finely spotted forms of *Odontoglossum Alexandræ (crispum)*, but this, of which we now publish a figure, is one of the most densely spotted forms that have come under our notice. It is also very distinct, not only in the tone of its colouring but also in the character of its markings, as will be seen by the accompanying plate. For the opportunity of figuring it we are indebted to His Grace the Duke of Sutherland, in whose grand collection of Odontoglossums and other Orchids, at Trentham Hall, Staffordshire, it has been bloomed by His Grace's most efficient gardener, Mr. Stevens, in whose honour it is named, and who cultivates these plants in great perfection, many wonderful examples having been exhibited by him at the London Shows. He has, moreover, always been particularly fortunate in obtaining good varieties of this invaluable decorative species, the flowers of which are turned to good account in the dinner-table and other floral decorations at the Hall.

Odontoglossum Alexandræ Stevensii is one of the bold-habited strong-growing forms of this plant, and as regards its pseudobulbs and foliage resembles any other of the more vigorous forms; like them, too, its flower spikes may eventually branch

out into panicles. The individual flowers are of large size, and finely crisped and toothed; the sepals and petals are white, heavily spotted and blotched with pale sienna-brown, and the lip is white, having a large blotch of the same colour on the anterior part, and numerous smaller spots towards the base, where the yellow disk is prominent, and adds life to the colouring. This plant produced its blossoms in March, and continued for six weeks in beauty. Like all the forms of *O. Alexandræ* it begins to show its flower spikes as soon as the growth is completed.

This variety requires the same course of treatment as that given to this class of plants generally, and which is commonly designated and understood as "cool-house" treatment.

Calanthe Veitchii and C. vestita.—We are always ready to record, for the information of our subscribers, anything that strikes us as likely to be interesting to them, whether the subject be an old plant or one of more recent introduction. Recently, when visiting the garden of H. Gaskell, Esq., of Woolton, Liverpool, and inspecting his collection of Orchids, we were much pleased with the sight of a house full of Calanthes. On entering the house, the charming appearance of their lovely and graceful flower spikes was almost beyond conception. The spikes were more than five hundred in number, overhanging each other, and so arranged that their rosy and white flowers were intermixed, thus producing an effect which was indeed most beautiful. In the case of *C. Veitchii* many of the spikes were over four feet in length, and those of *C. vestita* were equally good. It is, indeed, difficult to describe or even to form any idea of the lovely effect they produced; they must have been seen to be fully appreciated. These Calanthes are invaluable as decorative plants, blooming as they do during the dull winter months—a time when the presence of flowers, especially if of cheerful colours, to enliven the too often dreary sunless periods, is doubly welcome.

There were, besides, many *Lælias*, *Cattleyas*, *Odontoglossums*, *Phalænopsis*, and a host of other good Orchids, many of them in their full blaze of beauty, and many others with their spikes showing for succession. Mr. Gaskell's collection is making rapid strides in respect to cultivation, a state of things we are at all times pleased to see and to commend, inasmuch as it always gives one pleasure to see either Orchids or other plants well cared for, as they are at this place.—B. S. W.

Nouvel Fitch del. et lith.

PILUMNA NOBILIS.

PILUMNA NOBILIS.

[Plate 128.]

Native of Colombia.

Epiphytal. *Pseudobulbs* elongate-oblong, compressed, narrowed to the top, three to four inches or more in length, clustered, monophyllous. *Leaves* broadly oblong, acute, narrowed to a cuneate base, keeled. *Scape* radical, from four to six inches high, about four-flowered, with two or three oblong acute scarious bracts below the raceme. *Flowers* half expanded, white, with two orange-coloured spots in the centre, the club-shaped furrowed ovary decurved; *sepals* linear-lanceolate acuminate, undulated, narrowed to the base, pure white; *petals* similar to the sepals both in size, form, and colouring; *lip* indistinctly three-lobed, subquadrate, the rounded side lobes meeting over the throat, the front lobe larger, retuse, one and three-quarter inch broad, having on each side of the throat an orange-coloured blotch, the blotches meeting to form a central eye, and a slightly elevated line at the narrow base; the claw adnate to the base of the column, and then involute, so as to enclose the upper part of this organ. *Column* clavate, terete.

Pilumna nobilis, *Reichenbach fil.*, in *Linnæa*, xxii., 843; *Id.* in *Walpers' Annales Botanices Systematicæ*, iii., 541.

Pilumna fragrans grandiflora, *Linden, Catalogue.*

Trichopilia fragrans nobilis, *Linden et André, L'Illustration Horticole*, 3 ser., t. 94.

This small genus was established for the Orchid known as *Pilumna fragrans*, a species bearing considerable resemblance to our present subject, but having smaller flowers. The great authorities—Reichenbach, Bentham, &c.—now refer these plants to the genus *Trichopilia*, but we have hesitated to follow them, as they appear sufficiently different from the Orchid growers' point of view to be allowed to enjoy the distinct appellation which was originally given to them by Dr. Lindley, the greatest of English authorities on Orchidaceous plants,

This pretty epiphyte, then, may be taken to represent a small genus of interesting and useful—because free-blooming—plants. The particular species now illustrated and described, is a very lovely plant, and can be recommended as one of the best to be grown for decorative purposes, the flowers being extremely useful for bouquets and button-holes. They are pure white in colour, and have a delicious fragrance, and these are qualities which will always cause them to be held in favour.

This *Pilumna* is a species of free-growing habit, and very free in producing its flowers. It requires cool treatment, and takes but little room; moreover, it can

be purchased at a moderate price, so that any one that has a small house will be able to obtain it, and when obtained to manage it. Thus it will be apparent that it is a most useful plant. Our drawing was taken from a plant which was cultivated in the Victoria and Paradise Nurseries, Upper Holloway.

The *Pilumna nobilis* is an evergreen Orchid, and is furnished with dark shining pseudobulbs four to six inches or sometimes more in height, and dark green leaves about six inches in length. The flowers proceed from the base of the pseudobulbs, three to four together in a loose raceme, and are of a pure milk-white, with a pair of clear orange-coloured spots, which impart a peculiar brightness to the throat; these flowers, which are very fragrant, are produced during the autumn months, and each lasts about two weeks in perfection.

We find the plants to thrive when grown in pots or baskets, with rough, fibrous peat and good drainage. They need a moderate amount of moisture during the period of growth, but when at rest less may be given, merely enough to keep the bulbs in a plump state. They will thrive well in the Odontoglossum house.

Lælia anceps.—We were very much surprised when calling on R. P. Percival, Esq., of Southport, to see the well-grown specimens of *Lælia anceps* to be met with in his admirable collection of Orchids. On the side stage of one house there were 230 spikes of this charming Lælia just ready to burst their flower buds, some being open, and presenting to view their fine richly-coloured lips, and their rose-coloured sepals and petals. Some of the spikes, too, bore as many as four full-sized flowers. This group must have formed a most gorgeous sight during the dull time of year, namely, during November and December. Some of these plants, moreover, were producing as many as thirteen spikes, others a lesser number. This species is, as it deserves to be, a great favourite with Mr. Percival. There was among them a fine specimen of *L. anceps Percivaliana*, a most beautiful form, producing fourteen spikes of its chaste flowers, the sepals and petals of which are blush-white and the lip rosy purple.

There were many other fine Orchids to be seen here. We must congratulate Mr. Percival on being so successful with his Cattleyas, which, when in bloom, must have been a grand sight, especially the varieties of *C. Trianæ*, *C. Mendelii*, and *C. Mossiæ*, which, between them, were producing many hundreds of flower-sheaths. Of *C. Percivaliana* there were five plants throwing up their spikes, and they looked very promising and distinct; doubtless, as in the case of other types of Cattleyas, there will be many forms of this new species.—B. S. W.

[Since the above was written Mr. Percival has exhibited one of these plants at South Kensington, and obtained for it a First Class Certificate. The flowers are not so large as in *C. Mossiæ*, but the lip is very richly coloured—a velvety crimson-purple with a border of pale rosy purple.]

ONCIDIUM LANCEANUM LOUVREXIANUM.

ONCIDIUM LANCEANUM LOUVREXIANUM.

[Plate 129.]

Native of Dutch Guiana.

Epiphytal. *Stems* forming a very short woody annulated rootstock (ebulbous), from which are protruded the thick greenish roots. *Leaves* elliptic-oblong acute, leathery, slightly keeled, somewhat recurved at the point, a foot to a foot and a half in length, dull deep green speckled with purple, the speckling most strongly marked on the under surface and on the younger parts. *Panicles* rigid, short-branched, on green peduncles, which spring from the base of the leaf, and are blotched with purple, and invested with scarious ovate-acuminate bracts, the lower ones being larger and much lengthened out. *Flowers* showy, fragrant like vanilla; *sepals* oblong-obovate, narrowed below, concave, keeled, wavy at the edge, yellowish green externally, internally brighter yellow-green and spotted irregularly with reddish brown, a broad blotch of brown occupying the base; *petals* similar to the sepals in size, form, and colour; *lip* one and a half inch long, three-lobed, the lateral or basal lobes magenta-purple, darkest at the centre, triangular-oblong, with three crests diminishing upwards on the disk between them; the middle or anterior lobe clawed, transversely-oblong, emarginate, the anterior half of the claw and the broad anterior lobe itself white. *Column* short, white, with a pair of magenta-coloured oblique oblong side wings, and a red anther cap.

Oncidium Lanceanum Louvrexianum, *Reichenbach fil.*, in *Gardeners' Chronicle*. N.S., xvii., 218.

We now present to our subscribers the figure of a most beautiful Orchid which belongs to an extensive genus, the species of which vary much in their growth, bulbs, foliage, and flowers, the latter including almost every gradation of size and many shades of colour. The Oncidiums are among the most useful of plants for decorative purposes, as every one must know who grows Orchids. *Oncidium Lanceanum* is quite distinct as a species from any others with which we are acquainted, and is remarkable for having a rich rosy violet lip; the typical form we hope to be able to figure at some future time. The variety *Louvrexianum*, as will be seen from the annexed illustration, differs from the type in having the lip white. Our plate was prepared from an excellent drawing of a plant which flowered in the fine collection of Orchids belonging to Mons. D. Massange de Louvrex, of Marche, in Belgium—one of the best collections in that country, and one also in which the plants are well cultivated, and many unique specimens are to be seen.

Oncidium Lanceanum Louvrexianum is an evergreen plant like the type. It grows to a foot or more in height, and has light green foliage which is spotted

all over with a darker green and purple. The flowers are produced on an upright scape a foot or more in length, which springs directly from the rhizome at the base of the leaf. The sepals and petals are greenish yellow blotched with brownish crimson, and the lip being white forms a pleasing contrast with the brown-crimson of the sepals and petals. It blooms during the summer months, and lasts several weeks in beauty.

We bloomed this variety many years ago, but it is still a rare plant; indeed we now very seldom see *Oncidium Lanceanum* itself well grown, for it is found difficult to cultivate by our present Orchid growers. Many years ago one frequently met with fine specimens of it exhibited at our London shows, and others were to be met with in collections in different parts of the country. We still hope to see it again taken in hand by Orchid cultivators, for it is beautiful both in foliage and in flower and altogether makes a distinct and handsome specimen. The manner in which these plants fail—and it is one which is very annoying—is that the leaves go spotted, a condition which is not only detrimental to their well-being, but renders them unsightly, and thus cultivators get tired of their plants and discard them, while others, who keep the foliage good from year to year, are proud of their success. We believe the spotting to be caused by giving the plants too much heat and not sufficient air, when, if the foliage is also kept too moist, it will spot; the leaves, it will be noted, are of a thick fleshy texture, and when once they get spotted it is very difficult to restore them to health. If a suitable place can be found for it, and one in which it succeeds well, by all means let it be kept there. We have found these plants do well grown in baskets, with good drainage, so that the roots can be benefited by being suspended in the atmosphere of the house—in fact they do not like their roots to be too much covered over, but they should have a little live sphagnum moss or very good fibrous peat. This compost should never be allowed to get into a wet or soddened condition; but if this should occur clear all the old material away, and employ fresh, putting some good lumps of charcoal, more of this than of moss or peat.

The plants may also be successfully grown on blocks of wood and suspended from the roof. We have found them succeed in an intermediate temperature ranging about 60° by night in winter, and a trifle more—about 65°—by day; in summer the heat may range a little higher, but not very much. With the heat give all the light possible, avoiding exposure to sunshine, as this will scorch the fleshy leaves, to prevent which we find it quite advisable to shade during the sunny part of the day.

See further observations relating to *Oncidium Lanceanum* under Plate 130.

J. Nugent Fitch del. et lith.

THUNIA MARSHALLIANA

THUNIA MARSHALLIANA.

[Plate 130.]

Native of Moulmein.

Terrestrial. *Stems* reed-like, erect, glabrous, cylindrical, about two and a half feet high, becoming smaller upwards, swelling into roundish tuberous knobs beneath the soil, clothed above with distichous leaves, and terminating in a dense raceme of flowers. *Leaves* oblong-lanceolate, acuminate, semi-amplectant, about six inches long, five to seven nerved, of a pale green colour, glaucous beneath. *Racemes* terminal, nodding, dense, and many-flowered, the bracts large ovate-lanceolate, acute, concave, shorter than the ovaries, pale yellowish green. *Flowers* large and delicately beautiful, white with orange-red veins; *sepals* and *petals* lanceolate-oblong acute, spreading, nearly equal, about two and a half inches long, pure white; *lip* white, with the lower part convolute around the column, produced behind into a retuse falcate spur and having in the centre five veins or ribs, fringed at the edge; the front part or limb flattened out, roundish, yellow with numerous forking veins of a deep orange-red colour, occupying the whole area, the disk traversed by five yellow raised veins, and about five shorter ones on each side, all pectinately fringed with crystalline hairs, the margin toothed and beautifully crisped, the extreme edge being white. *Column* enclosed by the lateral lobes of the lip (which are yellowish striated with red near the front) terete below, widened above, with two prominent toothed wings near the tip forming a kind of hood.

Thunia Marshalliana, *Reichenbach fil.*, *Linnæa* xli., 65; *Regel*, *Gartenflora*, t. 1098.

The *Thunias* form a small genus of very beautiful Orchids, which have the further recommendation of being easy of cultivation. They are deciduous in habit, losing their stems and leaves after they have bloomed and completed their growth. That which we now figure, *T. Marshalliana*, is a most distinct and showy species, our sketch of which was taken from a well grown plant belonging to W. Cobb, Esq., Silverdale Lodge, Sydenham, who has a well selected and finely grown collection of Orchids. This plant was indeed a marvel of cultivation, and did great credit to Mr. Catt, the gardener.

Thunia Marshalliana, like its congeners is a free-growing plant, furnished with tall reed-like stems. These stems are of annual duration only, and grow from two to three feet in height, perishing as soon as the flowering and growth is completed: they are thickly clothed with distichous leaves, which are of a pale glaucous green colour, and three inches or more in length. The flowers are produced in large terminal spikes.

and have the sepals and petals white, and the lip white, beautifully veined and fringed with deep orange colour, margined with white. The plant generally blooms in June and July, and continues flowering on for several weeks; it makes a fine decorative subject, as well as a fine plant for the exhibition table. We have more than once seen some noble specimens shown at the Whitsuntide National Show of the Royal Botanic and Horticultural Society of Manchester.

We figured the charming *Thunia Bensoniæ* in our second volume at Plate 67, where will be found a full account of the treatment given to that beautiful species. *T. Marshalliana* requires a similar mode of cultivation, and is propagated in the same manner.

Oncidium Lanceanum, a very handsome variety of which is figured on the preceding Plate, was first discovered in Surinam by John H. Lance, Esq., by whom it was brought to England in the year 1834. In a letter quoted by Dr. Lindley in the *Transactions of the Horticultural Society of London* (2 ser. ii, 100, t. 5.), Mr. Lance states that he first found it growing on the trunk of a large Tamarind tree, near the Government House, and that he subsequently met with a number of the plants in different parts of the colony, generally attached to the stems or branches of Tamarind, Sapodilla or Calabash trees. With him it failed to grow in rotten wood and light earth, but grew well when fastened to the branches of the Orange, the Soursop, the Mammee, and even the *Brugmansia arborea*, producing vigorous stems with upwards of twenty blossoms on each.

The scent of the blossoms Mr. Lance goes on to state "is extremely fragrant, and is retained after the flower is dried, only becoming fainter and more of a spicy flavour than when fresh. The plant remains in full beauty from ten or twelve days—a long period in that climate; and I found that it always required a shady situation, and a living stem to grow upon, without which it would not produce its flowers in the highest perfection." Dr. Lindley, in one place, compares their fragrance to that of the Garden Pink, and in another to that of Vanilla.

CALOCHORTUS NEVADENSIS.

ODONTOGLOSSUM NEVADENSE.

[Plate 131.]

Native of New Grenada.

Epiphytal. *Pseudobulbs* large, oblong-ovate, compressed, about three inches high and two inches broad, diphyllous. *Leaves* lorate-lanceolate, keeled, very much narrowed to the base, of a dark green. *Scapes* radical, bearing drooping racemes of from twelve to fifteen blossoms. *Flowers* large and pleasingly coloured; *sepals* spreading in a narrow triangle, lanceolate, slightly grooved in the centre, clear bright chestnut, with a narrow even edge of yellow; *petals* smaller, lanceolate, spreading, an inch and a half long, of the same colour as the sepals but with more distinct yellow tips, and about two forked bars of a pale yellow colour at the base, opposite the lateral lobes of the lip, the margin slightly wavy; *lip* white, three-lobed, the lateral lobes erect, crescent-shaped, spotted with chestnut, the broad rounded front lobe deeply fringed, cuspidato-acuminate, the base cuneate, channelled, the disk with a bifid crest, and three obcuneate conical brown spots. *Column* erect, half-an-inch long, galeate, spotted with red, and having two short horn-like lateral auricles.

Odontoglossum nevadense, *Reichenbach fil.*, *MS.* in *Horto Lindeniano ac Mendeliano*; *Id. Xenia Orchidacea*, ii., t. 191, figs. 1, 2; *Id. Gardeners' Chronicle*, n.s. xv., 136; *André, L'Illustration Horticole*, 3 ser., t. 45.

The *Odontoglossum nevadense* is a very distinct and also a very rare and beautiful species which was first discovered in 1868, by Mr. G. Wallis, when travelling for Mr. Linden in the Sierra Nevada of New Grenada. It is not often met with, as there are very few plants of it in cultivation, so far as we know, but we may hope that our energetic collectors will be fortunate enough to meet with and send home a further supply of so lovely a plant. We are indebted to Dr. Boddaert, of Gand, Belgium, for the materials which have been used in preparing our illustration, the plant from which our plate was copied having been grown in his fine collection of Orchids; this was the finest specimen of the kind which we have seen, and was, when in bloom, an object of attraction of which Dr. Boddaert might well be proud.

In this *Odontoglossum nevadense* we have a compact-growing evergreen species, with small pseudobulbs, and light green foliage; it grows about ten inches in height, and produces its spikes of elegant flowers during the spring and summer months. The sepals and petals are reddish-brown, margined and tipped with yellow; the lip is white, its side lobes spotted with brown inside. It lasts about six weeks in beauty.

This species is best grown in a pot, with rough fibrous peat as a compost, and good drainage. It should have the same treatment accorded to it as that given to *Odontoglossum Alexandræ* as regards water, and the temperature of the Odontoglossum house. Dr. Boddaert grew his specimen with the rest of his Odontoglots, and found it to succeed well under this *régime*, the plant continuing to increase in size and in value.

The following New Orchids were exhibited at the meeting of the Royal Horticultural Society at South Kensington on February 12th, and were severally awarded First Class Certificates :—

Cattleya Percivaliana alba.—A most chaste and beautiful variety of this novelty, having pure white sepals and petals, and a white lip marked with a blotch of yellow in the throat. Exhibited by R. P. Percival, Esq., Birkdale, Southport.

Lælia anceps Williamsiana.—A new variety of *Lælia anceps*, exhibited by Messrs. F. Sander & Co., of St. Albans. The sepals and petals are pure white, of good form, and stout substance; the lip white, having a yellow patch at the base, and a yellow throat striped with deep crimson-purple.

Odontoglossum Alexandræ (crispum) aureum.—A very striking novelty, with clear yellow flowers. The sepals and petals are of a deep lemon yellow, the sepals spotted with brown, and the lip having one or two spots of a similar colour. Exhibited by F. A. Philbrick, Esq., Bickley.

Odontoglossum Pollettianum.—This plant was much admired on account of the distinct markings of the flowers. The sepals and petals were white, tinged with purple, and heavily spotted with reddish brown; the lip being wedge shaped, as in *O. Andersonianum*. It is, doubtless, one of the many natural hybrids between *O. Alexandræ* and *O. gloriosum*. Exhibited by H. M. Pollett, Esq., Bickley.

Oncidium anthrocene.—In growth this plant somewhat resembles *Miltonia Warscewiczii* (*O. Weltoni*), but it is quite distinct in the character of its flowers, and in its branched inflorescence. The sepals and petals are much undulated, brown, faintly barred with yellow towards the base; the lip is yellow, spotted with brown, and very distinct. Exhibited by Messrs. F. Sander & Co., St. Albans.

Oncidium Jonesianum.—A new and distinct species, having terete foliage eight to twelve inches long. The flowers are about two inches across, greenish yellow, with reddish brown spots, the lip white spotted with red. Exhibited by A. H. Smee, Esq., Wallington.

The following were also submitted to the meeting :—

Vanda Cathcartii. — There was a well-grown specimen of this fine species exhibited by Mr. Aldous, gardener to G. Heriot, Esq., Highgate, bearing three spikes consisting of eleven flowers. It is a pity we so seldom see this plant, as it is a real beauty. The plant was deservedly awarded a Cultural Commendation.

Mr. Philbrick exhibited flowers of a fine series of *Cattleya Trianæ*, among which some very nice varieties both of the light and dark coloured sections.

LAELIA DAYANA.

LÆLIA DAYANA.

[Plate 132.]

Native of Brazil.

Epiphytal. *Stems* short, clustered, oblong, somewhat clavate, invested by dry membranous pale brown scales, the stronger and younger flowering stems with two or three blunter sheaths of a pale green colour. *Leaves* elliptic-oblong, acute, three inches long, fleshy coriaceous, solitary. *Scape* terminal, one-flowered, issuing from a leafy spathe. *Flowers* nearly four inches across, showy, on account of the rich and strongly contrasted colouring of the lip; *sepals* lanceolate acute, entire, recurved at the top, pale lilac-mauve; *petals* ovate acute, broader and somewhat deeper coloured than the sepals; *lip* three-lobed, the lateral lobes having the sides convolute over the column, of a pale lilac-mauve, the truncately rounded denticulate front edge recurved, and together with the subquadrate emarginate undulated and recurved front lobe of a rich purple-magenta, contrasting strongly with the diluted mauve-purple of the sepals, petals, and base of lip; the *throat* is white, marked by seven deep purple carinæ, which are depressed and more or less wavy on the edges. *Column* quite enclosed, angulate on both sides at the apex.

Lælia Dayana, *Reichenbach fil.* in *Gardeners' Chronicle*, n.s., vi., 772.

Lælia pumila Dayana, *Burbidge, Floral Magazine*, n.s., t. 249.

This species belongs to a group of small-growing *Lælias*, several of which are most beautiful. That of which we are at present treating is, however, one of the best of this group. There are several forms of it to be met with in gardens, but that which we have figured we consider to be the type. It was first flowered by and named in honour of John Day, Esq., of Tottenham, and was imported by Messrs. Low & Co., from Brazil, some years ago, together with a batch of *L. pumila*, so that it is now well distributed, and is to be seen in nearly all collections of any importance. It is a most useful plant, and has many good qualities to recommend it, amongst which we may mention that it is dwarf-growing as well as free-blooming, and it is of easy cultivation, thriving under the cool treatment given to Odontoglots, which it seems to enjoy. Our drawing was taken from a well-grown plant in the collection of J. Buchanan, Esq., of Oswald Road, Morningside, Edinburgh, who has some well-grown specimens of the different classes of Orchids which are well cared for by Mr. Grossart, the gardener.

Lælia Dayana is a compact evergreen plant, growing about six inches high, the stems being terminated by the short oblong leathery green leaves; it produces its flowers with the young growth from the top of the stem, and these are of

large size, the sepals and petals being of a light lilac-mauve and the lip of an intensely dark magenta-purple, with a light throat, the crest much darker in colour. It blossoms during the autumn months, and lasts about four weeks in bloom if the flowers are kept dry.

This, as we have said, is a cool-house plant, doing well with the Odontoglots if placed in pans or shallow pots amongst rough fibrous peat with good drainage, filling the pots three parts full with a layer of moss on the crocks, and the pot being then filled up with the peat, adding some lumps of charcoal, which will encourage them to root more freely. They will also do well in baskets suspended from the roof with the same material, and they will thrive on blocks of wood, but grown in the latter way they require more water in the active season.

When in pots or baskets they require to be kept moist in their growing season, which continues during their period of flowering and some time after. When their growth is completed less water will suffice, but their stems must not be allowed to shrivel. Moreover, the soil must always be kept in a sweet condition. If the soil decays remove it and supply fresh, but in doing this carefully avoid injuring the roots. They must be grown near the glass, with very little shade—just sufficient to keep the burning sun-rays off them.

Insects must be well sought after and battled with. The White Scale will attack them, and must be eradicated, as small-growing plants like this cannot endure such enemies. Cleanliness is the chief virtue, not only in cultivating Orchids but most other plants, and clean objects are always worthy of admiration.

ANTHURIA EBURNEA.

ANGULOA EBURNEA.

[Plate 133.]

Native of Colombia.

Epiphytal. *Pseudobulbs* oblong attenuated at the apex, four inches high, furrowed, dark green, sheathed while young with large leafy scales, which gradually pass into the true leaves, becoming leafless in age. *Leaves* broadly elliptic-lanceolate acute, strongly ribbed and of thin herbaceous texture. *Scape* stout, springing from the base of the pseudobulbs, eight to ten inches high, with one or two distinct sheathing ovate acuminate pale green bracts. *Flowers* large, solitary at the top of the erect scape, subglobose, of a clear ivory white; *sepals* broadly orbicular-ovate, acute, cucullately concave, the margins of the dorsal and the tips of the connivent lateral ones recurved, white; *petals* smaller, enclosed, concave, also white; *lip* white spotted with pink, turned up so to be parallel to the column, three-lobed, the lateral lobes broad narrowed to a point which is recurved, the middle lobe small, triangular, deflexed with a furrow down the centre. *Column* clavate, the apex with three projecting subulate-triangular teeth directed downwards.

Anguloa eburnea, *Williams, Orchid Grower's Manual*, 3 ed., 67; *Id.*, ed. 5, 91.

Of this small Orchidic genus there are but few species known in cultivation. All those we have seen bear curiously-formed flowers, and are very showy. The species now before us has the flowers of an ivory white, and these when in bloom form a good contrast with the yellow flowers of *Anguloa Clowesii* and the beautifully spotted flowers of *A. Ruckeri* and its variety *A. Ruckeri sanguinea*, a figure of which latter plant will be found at Plate 19 of our first volume. There are besides other species, but those we have mentioned are among the most showy.

Anguloa eburnea, our present subject, is an exceedingly rare and a very distinct species, which indeed we have seen in very few collections. We are indebted to Sir Trevor Lawrence, Bart, M.P., of Burford Lodge, Dorking, whose collection, as is well known, abounds in rare Orchids, for the opportunity of publishing the accompanying figure.

Like the other *Anguloas* this is a plant of bold and majestic habit, producing large dark green pseudobulbs several inches high, crowned with the ample lively green foliage, which attains a foot and a half in height. The flowers, which are ivory white, proceed from the base of the pseudobulbs on scapes eight to ten inches in height. The character of these plants is to show their flowers after their pseudobulbs are well matured, and when the resting season has been completed, the young growth also appearing at the same time. The flowers are generally

produced during the months of May and June, and last for several weeks in beauty. It should, however, always be borne in mind that in order to preserve them for any lengthened period, the flowers must be kept free from contact with moisture, inasmuch as white blossoms seem to have a greater tendency to spot than those of any other colours. Our present subject makes a grand exhibition plant, and moreover, one which is quite distinct in character.

We find the *Anguloas* very accommodating, for in regard to their cultivation they will do equally well either in the Cattleya house, or in the cool Odontoglossum house. We cultivate them under both these conditions, but when grown in the cooler atmosphere we generally take them into the warmer house as they begin to show flower, and take them back to the cool house after they have finished blooming. At this time of the year—say June—the weather is warm, and we find that the cool house suits them, and the conditions thus secured induce them to make strong bulbs, which is a necessity if it is desired that they should bloom freely.

We find rough fibrous peat to suit them as a compost, and they must have good drainage. They should, moreover, be grown in pots. The roots require to be kept moist during the time the plants are in vigorous growth, but when their pseudobulbs are fully grown, which is the time for rest, very little water is required, merely sufficient to keep the bulbs plump. We find the best time for potting, —that is, if they require it—to be just as they begin to grow, and show their flower buds. The plants must be taken carefully out of their pots, and the soil being dry it will readily fall from the roots; the old roots, then dead, must be carefully cut away, and fresh ones will appear to supply their place. After potting, the roots will become vigorous, which will enable them to swell up their large pseudobulbs, and to perfect their flowers. They must be grown near the glass in order to ripen their bulbs and thoroughly mature their foliage, which, however, requires to be shaded to keep it from getting scorched.

Insects should be always looked after to keep them in check. Sometimes the scale attacks them, but this may easily be kept under by a sponge and clean water. In this work of cleansing always avoid rubbing the foliage too much, as this will cause bruises, which are very detrimental to the plant and cause it to look unsightly; moreover, perfect and uninjured foliage is a great adornment to a plant, and gives evidence of good cultivation and judicious care. These plants are propagated by dividing the pseudobulbs just as they begin to grow, leaving one or two at the back of the leading one. The divided portions must be placed in pots, using for compost the same kind of material as that recommended above.

CALANTHE VESTITA WILLIAMSII.

CALANTHE VESTITA WILLIAMSII.

[Plate 134.]

Native of Eastern Asia.

Terrestrial. *Pseudobulbs* broadly ovate or ovate-oblong, often five to eight inches long with a constriction above the middle, bluntly angular, in age furrowed, pale grey or ash colour, partially sheathed with membranaceous scales, and terminating in the remains of the previous set of leaves. *Leaves* large, broadly lanceolate acuminate, a foot long, of herbaceous texture, and a pale green colour, nervosely striate, deciduous, appearing after the decay of the flowers, two or more from each bulb. *Scapes* radical, tall, pale green, villous with spreading hairs, and having a few sheathing glabrous scales below, terminating in a raceme of fifteen to twenty or more flowers, with hairy pedicels, each subtended by a smooth, spreading or deflexed ovate-lanceolate boat-shaped bract, about an inch in length. *Flowers* showy, about two inches across; *sepals* oblong-lanceolate acute, narrowed towards the base, the dorsal one white, the lateral ones white on the upper, rosy crimson on the lower side at the base, the tips being white; *petals* similar in form, rather broader upwards, bluntly acute, margined with rosy crimson, and pencilled in the lower half with the same colour; *lip* adnate with the column at the base, its limb broadly roundish, deeply three-lobed, the lateral lobes oblong-obtuse, the broadly cuneate centre lobe emarginate, entirely of a dense bright rosy crimson, the discal region of a much deepened tint, and the margins paler. *Spur* slender, curved beneath and shorter than the lip, rosy, with a green tip. *Column* adnate with the base of lip, the blunt projecting beak white.

Calanthe vestita Williamsii, *Moore*, supra.

The genus *Calanthe* which we now again bring under the notice of our readers, ranks amongst the most useful in cultivation for winter decoration. Several species and varieties have been introduced within the last few years, and have proved to be a great boon to plant growers and others who are fond of flowers, as the whole of this bulbous class produce their blossoms at a time when the beauties of nature are most appreciated. What can be more charming than the original *C. vestita*, and its red-eyed and yellow-eyed varieties with their drooping flower spikes; or what more pleasing than the *C. Veitchii*, figured at Plate 31 of our first volume, a hybrid raised by the Messrs. Veitch & Sons, of Chelsea, and a most useful decorative plant, its long spikes of rich rose-pink flowers, producing a most charming effect when intermixed with the white-flowered kinds.

We have now another variety to make known, and one which, as will be seen from the accompanying figure, adds a new charm to the genus, since it will introduce among our winter blooming Calanthes a most distinct and showy form that

will be welcomed by all plant growers as being superior in beauty to all those which have preceded it. It has been named in compliment to Mr. B. S. Williams, of Holloway. Our drawing was taken from a plant that had been blooming during the months of December, January and February in the Victoria and Paradise Nurseries. It seems to be of free growth, the pseudobulbs being like those of *C. vestita Turneri*, the spikes of flowers being also of similar character and developed at the same time of year.

Calanthe vestita Williamsii is a deciduous plant, with pseudobulbs from five to eight inches in height, and leaves a foot high and of a light green colour. The flower-spikes, which are produced from the base of the bulb, are two feet or more in length, and bear many flowers; the sepals and petals are white, faintly margined and striped with bright rosy crimson; the lip and column are of a deep rosy crimson, with an intense crimson eye. It continues to flower on for three months, when the bulbs are strong.

This novelty requires the same mode of treatment as that recommended for *Calanthe Veitchii* at Plate 31 of our first volume, where full cultural instructions are given.

Orchids at Downside, Leatherhead.—It is always a great treat to see the Orchid collection of W. Lee, Esq. We always find something to note for the advantage of our subscribers, who, like ourselves, are interested to read of things they have not already seen. What we are now about to describe was certainly a grand sight, namely, a house full of *Phalænopsis*, of which there were many hundred spikes of blossom hanging in profusion over and amongst each other, and thus showing off their various tints of colour to advantage. There was first the white *P. amabilis* with capital spikes, and then *P. grandiflora*, an extraordinary large kind with well formed flowers. Of *P. Stuartiana*, with its white spotted flowers, there were many varieties, differing in their spotting; and there were also two fine plants of *P. Brymeriana*, a beautiful and rare kind. The most prominent, however, was *P. Schilleriana*, with many spikes including some beautifully coloured forms, the mauve-coloured flowers of which, hanging amongst the white forms, produced quite a charming *ensemble*. The middle and side tables were one mass of colour, while on one side, for the whole length of the house, at the back of the *Phalænopsids* was placed a row of the chaste and beautiful white-flowered *Angræcum citratum*, displaying as many as thirty spikes, each from eighteen to thirty inches long; these charming flowers overhanging the *Phalænopsis* produced a most exquisite effect, well worthy a long journey to see. We may without presumption congratulate Mr. Lee on having produced so grand a picture.

There were besides the foregoing many other Orchids in bloom. Amongst other things we were glad to see the *Lycastes* accommodated with a very nice house, and making quite an attractive show. These most useful flowers were arranged on a central stage, and included several pure white forms which, intermixed with those of high colours, were remarkably effective.—B. S. W.

J.Nugent Fitch. del. et lith.

LÆLIA AMANDA.

P.S. Williams

LÆLIA AMANDA.

[Plate 135.]

Native of Brazil.

Epiphytal. *Stems* thin, fusiform, a foot to a foot and a half in height, diphyllous, invested by a sheathing mucronulate scale. *Leaves* cuneate ligulate, bluntly acute, six to nine inches long, coriaceous, of a light green. *Peduncles* two flowered issuing from a small narrow spathe. *Flowers* five to six inches across, delicately coloured; *sepals* ligulate-oblong acute, entire, of a flesh-colour or pinkish blush with purple veins, the dorsal one three inches long and three-fourths of an inch wide, the lateral ones somewhat longer and broader, slightly falcate-deflexed; *petals* linear-oblong blunt, three inches long, and an inch broad, of the same pinkish-blush or pale rosy-lilac as the sepals, but more distinctly veined; *lip* three inches long, rosy lilac, marked by longitudinal veins, with a cordiform base, three-lobed, the lateral lobes folded over the column and about twice its length, the front edge rounded and slightly wavy, the middle lobe projecting an inch and a half, roundish-oblong, obtuse, apiculate, prettily veined with magenta, the few strongish central veins parallel, the rest divergent and variously netted, the tip paler, the veins continued through to the margin which is crispulate. *Column* decurved, semiterete, winged, magenta except about the stigmatic hollow which is white, the apex toothed.

Lælia amanda, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xviii., 776.

Cattleya Rothschildiana, *of some gardens.*

We are pleased to be able to figure and describe such a distinct species of *Lælia* as the subject of our present plate, which forms quite a new type in the genus. It produces very chaste looking flowers, and is decidedly novel in the style of marking of its lip. There have been many new varieties of the *L. elegans* and *L. anceps* type introduced of late, but few have proved so good as those obtained many years before: for example, of the forms of white *anceps*, none are so good as *L. anceps Dawsoni*; and of the *elegans* type, there are none to surpass *L. elegans alba* and the dark *L. elegans Turneri*, and other beautiful sorts which might be named. Our drawing shows quite a distinct and novel form as compared with these, and was taken from a plant in the fine collection of W. E. Brymer, Esq., M.P., Ilsington House, Dorchester. There are many fine Orchids included in Mr. Brymer's collection.

Lælia amanda is an evergreen species, with pseudobulbs attaining about eighteen inches in height, and light green leaves. The flowers are produced in upright

spikes, the sepals and petals being of a pale tint of rosy lilac, the lip bright rose with lilac, veined with brighter rosy-purple. It blooms during the autumn, and according to Mr. Powell, Mr. Brymer's gardener, lasts for six weeks in beauty. It is a free growing species, but like the forms of *L. elegans* requires good cultivation.

We find this kind does well either in a pot or basket. It should have good drainage, and be grown in rough fibrous peat with lumps of charcoal intermixed to keep the soil open, thus allowing the roots to run over it and cling to the lumpy peat and charcoal. We find all this class of *Lælias* to thrive best elevated well above the pot or basket in which they are grown; the roots then come down more freely, and can go either into the compost or outside of it as they like, though in most cases it will be found that they prefer the outside; and to us it appears very delightful to see the fresh roots in this way enjoying the atmosphere of the house in which they are cultivated. They do the same in their native country, clinging to the trees, rocks, or any other firm substance on which they can lay hold. By growing them here as we have indicated, above the pot rim, the water passes off and most of the roots enjoy what is natural to them. They require a good amount of moisture when in vigorous growth, but should never be kept too wet, as this causes the soil to become soddened, and in this way are brought about the many failures that we hear of. Some cultivators imagine that because a plant is in vigorous health and growing freely nothing can hurt it, but this is a mistaken idea, as that really is the time during which they require more than ordinary care and attention. On the other hand, if the plants have become matured they will most probably suffer for it afterwards by the rotting of the young growth. When kept too wet the plants often become too sappy, and then after the growth is matured the cultivator may be startled to find the stems and foliage turning black and rotting away—a state of things which may frequently be attributed and often traced to over-watering. Before proceeding to water plants their requirements should be studied. Orchids require much forethought in reference to their treatment, especially as regards the temperature of the house compared with that of the atmosphere outside, the time of year making a considerable difference, as does the condition of the plants. All this has to be considered in reference to the treatment about to be bestowed upon them. There is no doubt that Orchids, when understood, are as easily cultivated as other plants, and some kinds more so, but on the other hand some require extra care and judicious management as regards light, air, potting material, and water; and unless a grower has some idea what his particular plants require he will most likely meet with failures. This is indeed sometimes the case with those who do know all the various requirements of particular subjects, but there is no doubt that where the treatment of a plant is well studied, a less amount of failure will be experienced. If a plant will not succeed in one part of a house, try it in another, and when a suitable spot is found let it remain there.

We find *Lælias* like to be as near the light as possible, and they will thrive well in pots or baskets suspended from the roof, so that their roots can throw themselves out where they please. They might indeed all be grown in baskets if preferred.

CYPRIPEDIUM CALUROM

CYPRIPEDIUM CALURUM.

[Plate 136.]

A Garden Hybrid.

Epiphytal. Acaulescent. *Leaves* spreading, tufted, ensiform, channelled especially towards the base, tapered to the apex, one and a quarter inch wide, green. *Scape* of a brownish-red colour, tall, branched, bearing several flowers, with longish ovate-lanceolate boat-shaped bracts at the ramifications. *Flowers* large and handsome, five inches in lateral, three and a half inches in vertical expansion; *dorsal sepal* oblong ovate bluntish, pale watery green with several longitudinal purplish and darker green intermediate ribs, slightly flushed with red, the purple tint stronger on the glossy exterior, which is olive green, the extreme edge white; *lower sepal* broad ovate, half as long as the lip; *petals* two and a half inches long, over half an inch broad at the base, narrowing to the apex, pale greenish white in the centre with an edge of wine-red one-eighth of an inch wide which meets towards the end so that the apex is wholly wine-red, the colour deeper and glossy outside with the central parts olive, the inside covered over with pellucid hairs, those on the lower half near the base longer and purplish; *lip* bold, oblong obtuse, nearly two inches long, the pouch deep wine-purple in front, paler behind, the sides deeply inflexed and with a roundish projecting lobe at the front angle of the aperture, greenish or creamy white with a few irregular purple spots, the inside of the pouch more distinctly spotted. *Staminode* greenish white clothed with short stiff hairs, tranversely oblong or reniform with an apiculus and having a fringe of short dark purple hairs on the front margin, the sterile lobe roundish, fleshy, greenish white, hairy.

Cypripedium calurum, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xv. 41.

The class of hybrid *Cypripediums* is becoming a numerous one, and some of the novelties are very distinct and beautiful, for although it may be difficult to beat the original types, yet in some cases they are superseded as regards colour, shape or form. We are greatly indebted to the Messrs. Veitch & Sons, of Chelsea, and others, for the good they have done in taking up the fertilisation of Orchids, and in raising the different forms which have appeared. The Lady's Slippers are amongst the easiest of Orchids to fertilize, and the plants likewise take less time than any others of the family to attain the flowering stage. We trust the hybridisers will continue their good work, as there is yet such an abundance of choice materials to work upon, both as regards form and colour, and that by careful selection some wonderful changes may yet be wrought. We admit that a great deal has been accomplished, but there is yet a large field remaining unoccupied for those who feel disposed to take an interest in this most important and pleasing work.

The class of Orchids to which our present subject belongs, is one of the most useful for the decoration of our Orchid houses and exhibition tables, as they are free growing and profuse blooming plants, the flowers being also of long duration. *Cypripedium calurum* of which we now present our readers with a portrait is a continuous flowering variety, for as soon as one blossom dies off another appears, and so on until the spike has exhausted itself; and then when the new growths are made, fresh flower spikes appear, after the manner of *C. Sedenii*. It is a hybrid between *C. longifolium* and *C. Sedenii*, the latter itself being a hybrid between *C. longifolium* and *C. Schlimii*, and was raised by the Messrs. Veitch & Sons, of Chelsea, to whom we are indebted for the opportunity of preparing our drawing, and who have a most wonderful lot of these beautiful hybrid Cypripediums, some others of which we hope to figure in due time.

Cypripedium calurum is an evergreen species of graceful habit, with long arching bright green foliage. The flower spikes are branched, several flowers appearing at the same time. They are large and handsomely coloured, the dorsal sepal reddish-green striped with pale purplish-crimson, the petals also pale crimson darkening towards the tip to a rich crimson, and having one green vein down the centre; the exterior of the lip is deep crimson, the inside greenish white, spotted with dull purplish-crimson. Each flower lasts for several weeks in perfection.

We find this plant does well grown in pots with rough fibrous peat or fibrous loam mixed with some leaf soil, and good drainage. It requires a moderate supply of water during the growing and flowering season. In fact, these plants may be said to be always growing and blooming, so that they should always be kept moist at the roots, as they have no succulent pseudobulbs to support them. We grow this plant at the cool end of the East India house with other Cypripediums, but it will thrive well in any ordinary stove. It is propagated by dividing the plant when there are several growths; this operation we find it best to perform just as the new growths begin to appear.

Odontoglossum sceptrum.—We feel great pleasure in acknowledging the receipt of a very fine spike of *Odontoglossum sceptrum*, from the collection of W. McDonald, Esq., Woodlands, Perth. The panicle was eighteen inches in length, and bore seventeen perfectly formed flowers. It must have been cut from a well grown specimen. The sepals were large, of a deep chocolate-brown, streaked and margined with yellow; the petals were irregularly lobed at the edge, yellow, blotched with the same colour as the sepals; and the lip was yellow with chocolate-brown on the front part. This is a fine cool-house Orchid, and a native of New Grenada.—B. S. W.

J. Nugent Fitch del. et lith.

B.S. Williams

ONCIDIUM TIGRINUM.

ONCIDIUM TIGRINUM.

[Plate 137.]

Native of Mexico.

Epiphytal. Pseudobulbs ovate, compressed, blunt-edged, two or three-leaved, three inches in length. *Leaves* oblong-lanceolate acute, leathery in texture, folded and sheathing at the base. *Scape* radical, two feet long, bearing a panicle of numerous showy blossoms. *Flowers* distinct in character from the marked contrast presented between the small tiger-striped sepals and petals, and the ample bright yellow lip, having a delicious odour of violets; *sepals* linear-oblong acute, wavy and revolute at the margins, the lateral ones curving upwards laterally, so that they all stand above the base of the lip, the colour yellowish green, heavily blotched with transverse bands of dark chestnut-brown; *petals* similar to the sepals in form and colour, curving upwards laterally like the lateral sepals; *lip* three-lobed, of a pure chrome yellow, paler on the outer side; the lateral lobes oblong with rounded angles, almost semicircular, entire, flat; the middle lobe large, about an inch in depth, and one and three-quarters inch in breadth, transversely oblong-reniform, emarginate, apiculate, with a distinct basal isthmus on which is seated a furrowed ridge or crest, one-eighth of an inch high, having a three-lobed tubercle in front. *Column* short, yellow, with two lateral oblong hatchet-shaped wings.

Oncidium tigrinum, *Llave et Lexarza, Novorum Vegetabilium Descriptiones*, fasc. 2, 36; *Lindley, Genera and Species of Orchidaceous Plants*, 203; *Id. Folia Orchidacea*, Oncidium, No. 157; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 794.

Oncidium Barkeri, *Lindley, Botanical Register*, 1841, Misc. 174; *Id. Sertum Orchidaceum*, t. 48; *L'Illustration Horticole*, t. 2; *Paxton's Magazine of Botany*, xiv., 97.

Oncidium tigrinum is one of the most beautiful and distinct of the many yellow-flowered species of Oncids. It is a free-growing and free-blooming species, of compact growth, with a moderate-sized branching spike, and flowers of long duration. It blooms at a time, in autumn, when Orchid flowers are most welcome. Another good quality in this plant is, that it will thrive well in the cool house, with Odontoglots, the bright colour of its blossoms proving to be extremely effective among the white flowers of *O. Alexandræ*. It grows about the same size as that plant, and has good evergreen foliage, which is a great attraction in any plant, and helps to show the flowers off to advantage. Our drawing, which was taken from a specimen grown in the Victoria Nursery, represents one of the best forms we have seen. There are smaller varieties of this species, but they are all worth

cultivating on account of their showy colours. This was, at one time, a rare plant, but latterly our collectors have been able to import it more freely.

Oncidium tigrinum is, as we have remarked, an evergreen species, with dark brownish green pseudobulbs, about three inches in height; and usually produces two leaves, about a foot in length, of a lively green colour, and a branching spike growing two feet long, and furnished with many handsome blossoms—the sepals and petals of which are greenish yellow, spotted and barred with brown, and the lip is bright yellow. It blooms during the autumn and winter seasons, and continues in bloom for six weeks. We grew this plant many years ago under the name of *O. Barkeri*; it was very rare at that time, and we grew it with the Cattleyas, but we have found since, that it succeeds well in the Odontoglossum house. Since the plants may be bought at a cheap rate, many duplicates of this species should be grown, for its brilliant golden flowers produce a grand effect among the white and delicate tints of *O. Alexandræ*. The yellow colour is required for contrast, and their spikes being similar in habit of growth, they associate well together.

We find the best material to grow them in is rough fibrous peat, with good drainage, which should be thus applied:—fill the pots three-parts full of broken crocks and charcoal mixed together; add a few lumps of charcoal to the peat, which helps to keep it open, moreover, the roots of the plant like to cling to it; let the plant be elevated on this material three inches above the pot rim, from which the roots will be delighted to run down, and can either go inside or work over the material, which should always be kept sweet and not allowed to stagnate. The plant is easy of cultivation if its requirements are attended to. It must be kept moist during the growing season, not, however, continually soaked with water, but just sufficient being given to keep the plant in vigorous state of growth. When the growth is completed, give just enough water to keep the pseudobulbs and foliage in a good plump state.

J.Nugent Fitch del.et lith

LÆLIA ALBIDA.

LÆLIA ALBIDA.

[Plate 138.]

Native of Mexico.

Epiphytal. *Pseudobulbs* ovate, clustered, about the size of pigeon's eggs, becoming furrowed in age, marked about the middle by a transverse ring or scar, diphyllous. *Leaves* narrow lanceolate acute, somewhat leathery, of a deep green colour. *Scape* terminal, slender, two or three times as long as the leaves, bearing a raceme of five to eight flowers, and furnished with rigid sessile ovate bracts. *Flowers* white, powerfully sweet-scented, with an odour resembling that of the glandular leaves of the Chinese Primrose, but having a honey-like sweetness superadded, rather small as compared with other species of the genus, being a little over two inches in expanse in each direction; *sepals* oblong-lanceolate acute, spreading, plane, mucronulate, ivory white; *petals* oblong ovate, subundulate, rather shorter than the sepals, recurved at the tip, mucronulate, also of an ivory white; *lip* obovate, three-lobed, the lateral lobes obtuse, of a rosy hue externally, inside veined with red-pink, erect, that is folded up against the column, the middle lobe roundish-oblong obtuse, obscurely apiculate, recurved, slightly tinted with rose; disk with three yellow crests running out in the front lobe into a pale red bar or central line, with rosy veins on each side which give a faint rosy tint to the surface, the two lateral crests yellow spotted with dark reddish-purple. *Column* elongate, glabrous, crimson-purple on the inner face.

Lælia albida, *Bateman*, in *Botanical Register*, 1839, misc. 4; *Lindley, Botanical Register*, 1839, t. 54; *Hooker, Botanical Magazine*, t. 3957.

Bletia albida, *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ*, vi., 428.

In *Lælia albida* we introduce to the notice of our readers a very pretty small-growing Orchid, which produces good useful flower spikes according to the vigour of the pseudobulbs, and which should therefore be grown in every collection. It blooms during the autumn months, and is a plant of quite a distinct character. We have many large-flowered grand species of this genus unsurpassed by any other Orchids, but the smaller growing kinds come in very useful where space is an object, and can be grown suspended from the roof, or on back wall of the house provided they get plenty of light and air, which they require in order to enable them to grow vigorously and flower freely. We are indebted to Herbert J. Adams, Esq., Roseneath, Enfield, for the specimen from which our drawing was taken, and which had been very successfully grown in his collection.

Lælia albida is an evergreen plant, and of compact-growing habit, as will be seen from the accompanying figure. It produces its flower scapes from the top of

the pseudobulb after the growth is completed, and the spikes assume a drooping character. The sepals and petals are white, the lip being rose-purple. It blooms in December and January and lasts for three weeks in beauty. There are several varieties of it, varying in the colour of the lip and the size of the flower.

These plants, we find, do well on a block of wood, or in a basket suspended from the roof of the Mexican house, with as little shade as possible, and they require a good supply of water in the growing season. If grown on blocks they require syringing every day during their season of growth—sometimes twice a day, morning and afternoon, according to the weather and the state of the atmosphere of the house in which they are grown. A great deal depends upon this point. It is a good plan to take the blocks and soak them in water until the blocks and roots are thoroughly saturated, and when this is done they will not require syringing so often. If grown in baskets with rough fibrous peat or sphagnum moss, they must be well drained by mixing a few pieces of charcoal with the peat. They will also succeed well in the warmest end of the Odontoglossum house.

Mr. May, the gardener at Roseneath, is very successful in cultivating these *Lælias*, and they well repay all the attention that is given them. The plants must be kept from insects; they are subject to the white scale, which can easily be kept under when taken in time. Whenever a plant shows signs of insects, let them be at once eradicated, as delays are dangerous, and through procrastination much mischief may be done before the remedy is applied.

Dendrobium crassinode Barberianum.—We have received a noble example of this very fine Orchid from W. Turner, Esq., Over Hall, Winsford, Cheshire. The stem bore twenty-four flowers of large size, and the specimen from which it was cut was the best-grown plant we have seen. It had sixteen bulbs, averaging from eighteen inches to two feet in length, all in full bloom at one time, and presented a most glorious spectacle. The sepals and petals are of a beautiful clear white, tipped with rich purple, and the lip is white with a deep orange blotch at the base. We are pleased to be able to mention Mr. W. Turner's name in association with so grand a plant, for he has been well known for many years as one of the oldest of our Orchid growers.—B. S. W.

J.Nugent Fitch del.et lith.

ARUNDINA BAMBUSÆFOLIA.

ARUNDINA BAMBUSÆFOLIA.

[Plate 139.]

Native of India: Nepal, Sylhet, Burmah, etc.

Terrestrial. *Stems* erect, terete, striate, with the habit of a small bamboo, three to five feet high, as thick as a stout quill or one's little finger, polyphyllous. *Leaves* a span to a foot in length, distant, distichous, ensiform, with the base sheathing the stem, and the apex attenuated, erect and spreading, the upper ones on the flowering stems reduced to sheathing bracts, which are numerous, short, ovate acute, spreading at the tips, so that the *peduncles* are ochreate, of a whitish green, and terminate in a spike, sometimes branched, of several showy blossoms. *Flowers* large and effective, measuring about two and a half inches across; *sepals* narrow lanceolate, entire, the dorsal one erect, the two lateral ones sub-parallel, directed downwards, of a pale pink colour; *petals* ovate, plane, spreading laterally, of a deeper pink than the sepals, with a rose-pink stripe down the centre; *lip* three-lobed, the lateral segments rolled over the column, pink, abruptly abbreviated in front, where they are recurved and deeper in colour; middle segment larger, bipartite, the divisions bluntly obovate-oblong, divaricate and crisped, of a magenta-rose, the throat white in the lower part, marked with white lines on each side, the disk bearing two fleshy undulated lamellæ or crests, and a third shorter straight one between them. *Column* clavate, semi-terete, lying parallel with the lip.

Arundina bambusæfolia, *Lindley*, in *Wallich's Catalogue*, No. 3751; *Id. Genera and Species of Orchidaceous Plants*, 125; *Griffith, Notulæ ad Plantas Asiaticas*, iii., 329, t. 314; *Wight, Icones Plantarum Indiæ Orientalis*, v., t. 1661; *Reichenbach fil*, in *Walpers' Annales Botanices Systematicæ*, vi., 457.

Cymbidium bambusifolium, *Roxburgh, Hortus Bengalensis*, 63.

Bletia graminifolia, *Don, Prodromus Floræ Nepalensis*, 29.

The plant we now introduce to the notice of our readers is very distinct from the ordinary types of Orchids, and is remarkable for its reed-like stems, and its very charming and beautiful blossoms. Its habit is to keep flowering in succession for a long period. When better known it will be much sought after; at present there are but few plants in cultivation, at least very few have come under our notice. There exist several varieties which vary in the colouring of their flowers; that which we now figure being a very good type. We are indebted to T. D. Cunningham Graham, Esq., Dunlop House, Stewarton, Ayrshire, for his kindness in sending the specimens for the use of our artist. A description of the Orchids at Dunlop House will be found under plate 118 of our present volume.

Arundina bambusæfolia is an evergreen plant, with reed-like or bamboo-like stems, bearing foliage of a light green colour; the sepals and petals are pale magenta-

rose, the lip rich rose shaded with magenta. It grows, in its natural state, from three to five feet in height, and produces its flowers from the top of the stems about July, continuing to bloom for some time during the summer and autumn months. Mr. Kemp, the gardener at Dunlop House, thinks it a most useful plant.

We find this Orchid to do best when grown in a pot, with good drainage. The material most suited to it is good rough fibrous peat and loam mixed together. It is a free-rooting species, but has no thick fleshy bulbs from which to draw support. Those Orchids which have these reed-like stems require to be potted in a richer soil than others; they grow after the manner of the *Sobralia*, and require similar treatment, that is, the treatment of the cool end of the East India house, with a good supply of water during the growing season, and to have the soil kept moderately moist when at rest; the plants need plenty of light, but should be shaded from the rays of the burning sun.

They must be kept free from insects, or the thrips will soon injure their foliage. They are propagated by dividing the crowns, and they also produce plants on the stems, which can be taken off and potted when they have formed roots. We saw some fine plants of this Orchid in the collection of W. Lee, Esq., of Leatherhead, which were producing shoots in this way quite freely, and these being taken off, soon formed young established plants.

Phaius tuberculosus (for figure, see plate 91 of our second volume.)—We are much pleased to be able to again record the flowering of this plant in the collection of A. Sillem, Esq., Laurie Park, Sydenham. It is generally considered a most difficult plant to cultivate, but here it grows most luxuriantly, no less than four spikes having been produced on three plants last February, all of which were distinct varieties. Mr. Billiard, the gardener, seems to have hit upon a plan of cultivation that suits this plant admirably, and great credit is due to him for his perseverence in the matter. We were so much interested in this successful treatment that we paid a visit to this collection to ascertain the mode of procedure, and Mr. Billiard was kind enough to give us the result of his experience, which we here reproduce for the benefit of our readers. "Our plants," he writes, "have been grown on the north-east side of a span-roofed house, close to the glass, in a temperature from 65° to 70°. We keep the sun from them as much as possible. They are potted in equal parts of peat and moss, with a small quantity of sharp sand, and plenty of crocks and charcoal as drainage. When making their growth they delight in an abundance of moisture at the roots. We find it necessary to sponge them weekly, as red spider, thrips and green fly are particularly fond of these plants. This year from three plants we have four spikes, which have opened twenty-three flowers; last year the same plants had one spike each, which gave us eighteen flowers in all."—B. S. W.

CYMBIDIUM AFFINE

CYMBIDIUM AFFINE.

[Plate 140.]

Native of Assam and Khasya.

Epiphytal. *Acaulescent*, with thick fleshy roots, forming a short rootstock, from which dense tufts of graceful erectly spreading foliage is produced. *Leaves* distichous, erecto-patent, elongate, linear lorate, acute, channeled, three-fourths of an inch broad, dark green. *Scape* stout, green, having just beneath the inflorescence two or three loosely sheathing leafy bracts,; *raceme* six to eight-flowered, decurved, terminal, each flower having a short ovate acute bract at the base of its pale green pedicel. *Flowers* about two and a half inches broad, and as much in depth, ivory-white, with a pleasant scent of almonds; *sepals* linear-oblong, somewhat broader upwards, acute, half an inch broad, the dorsal one incurved, and arching forwards over the lip, the lateral ones two inches long, somewhat widened at the base and apex, the rounded bases united with the base of the lip, to form a short blunt chin: *petals* linear, about as long as the sepals, but distinctly narrower, one-fourth of an inch wide, acute; *lip* three-lobed, saccate at the base, the side lobes folded close to the column, the front edge produced rounded and slightly spreading, spotted, as is also the mouth of the tube, with pale magenta, the front lobe hairy, half an inch long, with a narrowed claw-like base, ovate, with a wavy margin, white, with a central straight oblong, and lateral divergent blotches of magenta, the central one continued into a yellowish streak, which is produced backwards to the deeper yellow crest of two abruptly elevated papillose plates, which are further continued into two yellow lines. *Column* white, one and a half inch long, curved, winged.

Cymbidium affine, *Griffith, Notulæ ad Plantas Asiaticas*, iii., 336, t. 291; according to *Lindley, Contributions to the Orchidology of India*, in *Journal of Linnean Society*, iii., 28; *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., x., 810; *Floral Magazine*, t. 346.

Cymbidium micromeson, *Lindley, Journal of Linnean Society*, iii., 29, *fide Reichenbach.*

Cymbidium, though a small genus of Orchids, contains within its limits some beautiful species, varying considerably in colour; indeed, most of them are worth growing. That which we now illustrate is a very chaste and pretty species, and is still quite rare; very few plants having come under our notice. We received the grand specimen here figured from the fine collection of G. Nevile Wyatt, Esq., Lake House, Cheltenham, who takes a great interest in the cultivation of good Orchids, and from whom at different times we have received some fine cut specimens, especially of the forms of *Cattleya Trianæ*.

Cymbidium affine is an evergreen species, which in its growth resembles *C. Mastersii* and *C. eburneum*, but the leaves are somewhat broader. It has dark green graceful foliage, and tall, erect scapes, from which the drooping flower racemes depend. The sepals and petals are of an ivory white, and the lip is white, spotted with dull magenta-purple. The plant blooms during the autumn months, and continues in flower for several weeks if the blossoms are kept dry. It will be found to be a most useful plant for decorative purposes, as its blossoms are so beautifully developed along with its graceful green foliage.

This class of plants is well cultivated by Mr. Simcoe, the gardener at Lake House, who grows them as we do, in pots, with good drainage. We have found them to do best in good fibrous loam, as they have thick fleshy roots to support, and experience has convinced us that they require something stronger than peat to feed upon, and consequently we have substituted loam for peat, but it must have some charcoal mixed with it so that the soil may be kept open, which is quite essential for the plants; they require a good supply of water in the growing season, and when the soil is kept porous and open the water passes off readily, and does not stagnate, which is deleterious to all plants. When the growth is completed, less water will suffice, but just enough should be supplied to keep the soil damp, for their thick fleshy roots always require to be in a fresh plump condition, and in a state of growth.

We find these *Cymbidiums* thrive well in the Cattleya house, kept as fully exposed to the light as possible, but shaded from the sun, for if in the warm summer months the sun is allowed to shine upon them their foliage is apt to sustain injury. When the sun is on the decline it will do them no harm, and the early morning sun will be beneficial to them; the foliage must, however, never be allowed to be wet when the sun comes upon the plants, or it will most probably become spotted.

The Cattleyas at Downside (continued from plate 134).—The Cattleya house at Downside, when we saw it a few weeks ago, presented a most magnificent picture, there being at the time several hundred expanded flowers of *C. Trianæ*, distributed over the whole length of a house one hundred feet long, and showing a variety of colouring, which thus displayed amongst the green foliage was truly marvellous. This collection comprises some of the best kinds in cultivation. It would take too much space to describe them here, but we hope to illustrate some of the most striking among them in our subsequent volumes.

J.Nugent Fitch del. et lith.

DENDROBIUM LINAWIANUM.

B.S.Williams Publr.

DENDROBIUM LINAWIANUM.

[Plate 141.]

Native of China.

Epiphytal. *Stems* erect, club shaped, somewhat flattened, light green, one to two feet high, retaining the leaves for two years, when mature becoming deeply furrowed and swollen below the nodes, the internodes partially sheathed by the withered bases of the leaves: it is these tumid internodes which give the appearance of a necklace, whence the name *moniliforme* came to be applied, though erroneously, to the plant. *Leaves* distichous, oblong obtuse, obliquely emarginate, pea-green. Peduncles from the axils of the leaves of the two-year old stems, or from the joints whence the leaves have fallen, two to three flowered, with small acute appressed bracts. *Flowers* bright coloured and pleasing, three inches across; *sepals* oblong acute, venose, their base produced into a blunt striated spur, white below and of a bright rosy pink in the upper half; *petals* ovate, of the same colour as the sepals; *lip* ovate, cucullate, reflexed, obscurely three-lobed, attenuated at the base, and serrulate on the margin, with an elevated pubescent crest along the disk, white below, having two crimson spots about the centre, the apical portion wholly rich magenta-crimson. *Column* short, the lip articulated at the end of its prolonged base.

Dendrobium Linawianum, *Reichenbach fil. MS.; Id., Walpers' Annales Botanices Systematicæ*, vi., 284.

Dendrobium moniliforme, *Lindley, Botanical Register*, t. 1314, non *Swartz; Hooker, Botanical Magazine*, t. 4153; *Paxton, Magazine of Botany*, iii., 77; *Maund, Botanist*, iv., t. 194; *Annales de Gand*, 1847, t. 137.

This *Dendrobium Linawianum* is a very old inhabitant of our Orchid houses, and a most distinct and beautiful kind; it is better known, however, under the name of *D. moniliforme*, which was formerly applied to it in error, but which it will no doubt long retain. Amongst the older race of Orchid cultivators, we used to exhibit it under the name of *D. moniliforme* at the Chiswick and Regent's Park Exhibitions, where it was shown in the form of large specimen plants, and formed one of the prettiest and most distinct looking Orchids in the show. Although amongst the numerous novelties, which have since been introduced, there have been many which produce splendid flowers as regards size, form, and colour, there has been one only that is at all similar to the present species, and that, which Professor Reichenbach has named *D. nobile formosanum*, and which is very much like *D. Linawianum* both in its growth and in its flowers, we imported about two years ago from the Island of Formosa. The drawing, of our present subject, was taken from a remarkably fine specimen grown in the collection of G. W. Law-Schofield, Esq., New-Hall-Hey, Rawtenstall, near Manchester; the specimen was about two feet high and as much through, and was one mass of blossoms. Mr. Wise, the

gardener, tells us it has flowered in this way for several years; and we may safely say that it is one of the best grown plants that have yet come under our notice.

Dendrobium Linawianum is an evergreen species with flattish club-shaped stems, which are of a light green colour, and remarkable for becoming swollen just beneath the nodes. The leaves are of a pea-green colour, and the flowers are borne on the stems of the second year, in twos or threes at every node. The sepals and petals are white at the base, and bright rosy pink in the upper half, while the lip is white, beautifully tipped with bright magenta-crimson. The flowers are produced during the winter and spring months, and last in perfection for two or three weeks. It may be had in flower much later by retarding the plant after it has finished its growth.

The present is a free-growing species if the plant is in good health. It begins to grow when the flowering is over, and this is the best time for repotting if the plant requires it; but care must be taken not to over pot it, as this is dangerous in some cases, especially if the soil should get into a bad state, for then the roots go rotten, and the plant becomes sickly. If this should happen, shake away all the soil from the roots and wash them well, afterwards repotting the plant in as small a pot as the roots will allow; the fresh roots will then begin to work about the new soil. Good drainage must always be given; and the plant must be well elevated above the rim of the pot. The most suitable potting material is good rough fibrous peat mixed with lumps of charcoal, which will keep the soil open, and allow the water to pass off freely. Over watering is dangerous, but the plants require to be kept moderately moist at the roots during the growing season. To avoid risk from excess of water, the pots should be three parts full of drainage material. When the growth is completed, give sufficient water to keep the stems plump until they show signs of flowering; then give a little once or twice a week, the quantity and frequency of the application depending mainly on the nature of the potting material; if it be rough and porous, the plant will require it, and a slight syringing over the soil and among the roots during a warm day, will also be beneficial.

We grow our plants at the cool end of the East Indian house, giving them plenty of light, and no more shade than is necessary to keep the foliage from burning. Light is the grand agent in ripening the stems; and it is thorough ripeness which induces them to make vigorous growth, and to develope their flowers freely.

Propagation is effected by dividing the stems just as they begin to start into growth, leaving two or three old bulbs at the back of the new one. It is the better plan to cut them a short time before they are parted; and this should be done with great care. After dividing, place them each in a small pot, with good drainage, and similar potting material to that previously recommended. They thrive well in sphagnum moss, but we prefer the peat.

J Nugent Fitch del.et lith

ZYGOPETALUM BURKEI.

B S Williams Publ^{r}

ZYGOPETALUM BURKEI.

[Plate 142.]

Native of Demerara.

Epiphytal. *Pseudobulbs* clustered, narrow oblong, over two inches long, erect, shining, tetragonal, the surface furrowed, diphyllous. *Leaves* elongate-lanceolate acuminate, nervose, somewhat leathery in consistence. *Scape* radical, pale green, bearing a raceme of four or five flowers, furnished with ovate pale green bracts at the base of the pedicels. *Flowers* about two inches across, of a peculiar and distinctive character; *sepals* ovate-lanceolate, the lateral ones deflexed, bright green, with about seven wavy close-set longitudinal bands of dark umber-brown, the bars having a tendency to break up into lines of spots, wholly green outside; *petals* spreading, of the same form and colour as the sepals; *lip* unguiculate, auricled on both sides in front of the claw, obovate with a broad rounded apex, undulated margin, and furnished behind the disk with a callus or ruff of thirteen crimson plaits or ribs. *Column* thick, greenish, galeate, with two projecting linear auricles.

Zygopetalum Burkei, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xx., 684

This new species is a very pretty free-blooming plant. It belongs to a genus that is well known to plant growers, and amongst the species of which there are some grand decorative plants; indeed, we generally find some of these plants wherever there is a stove, even if Orchids generally are not professed to be grown. *Zygopetalum Mackayi*, *Z. maxillare*, and *Z. Gautieri*, are the most useful. Of late some new hybrids have been introduced, namely, *Z. Sedeni* and *Z. Clayi*, which latter will be found figured at Plate 50 of our second volume. The species now under notice was introduced by the Messrs. Veitch & Sons, of Chelsea; and in their fine collection it bloomed last November, and was exhibited at South Kensington, gaining a First Class Certificate. It will be found to be a most useful species for general cultivation. We believe Messrs. Veitch's to be the only plant that has yet flowered in this country.

Zygopetalum Burkei is a native of Demerara, and was found, it appears, by Sir Robert Schomburgk some forty years since, but had not been introduced until recently sent home by Messrs. Veitch's collector, Mr. Burke, after whom it is named. It is an evergreen species, with long narrow erect ribbed four-cornered pseudobulbs, and light green foliage; the sepals and petals are green, spotted and barred with brown, and the lip is white, with a crest of crimson stripes or ribs. It blooms during the autumn months, and lasts for several weeks in bloom.

The East India house is the most suitable place in which to cultivate it, for most of the species of *Zygopetalum* like the temperature therein maintained, and,

indeed, they thrive well in any warm stove. This new species will no doubt require as a root medium the same material as the rest of the genus, that is, rough fibrous peat and loam. As they generally have thick fleshy roots, they require an abundant supply of moisture during the growing season; but of course a less liberal supply will suffice after the growth has been completed, when the ripening process comes on.

A Wonderful Dendrobium.—Mr. Bland, gardener to S. K. Mainwaring, Esq., Otley Park, Shrewsbury, has recently flowered a grand specimen of the old and beautiful *Dendrobium Paxtoni*. The plant is in a 15-inch pot, has 74 growths, and produced 123 flower spikes, containing in all 1,216 flowers. The longest growth on the plant measures as much as four feet six inches. This plant is a marvel of cultivation, and we are much pleased to be able to record such a splendid example of Orchid management.—B. S. W.

Odontoglossum mulus.—D. Tod, Esq., Eastwood Park, Thorliebank, by Glasgow, has sent us flowers of a fine variety of *Odontoglossum mulus*, which bloomed with him last April. The spike, Mr. Tod informs us, bore sixteen flowers, and although this is no great number for *O. mulus*, which generally comes with a large branched panicle, it must have been a fine sight, as the flowers of Mr. Tod's variety are not only very large, but very brightly coloured.—B. S. W.

A Gigantic Orchid.—Messrs. F. Sander & Co., of St. Albans, have lately received an enormous specimen of *Cattleya Skinneri*, certainly the largest mass of an Orchid ever imported. The plant was found growing in the crown of a tree, near Cartago, in Costa Rica, where it was originally planted in a garden belonging to a native, by whom it has since been cultivated, so that although this plant has been found in its native habitat, it is, nevertheless, a cultivated specimen. This plant has long been known to botanical travellers, Skinner, Roezl, and others having seen it in flower. It is stated to have produced, at one time, over 1,500 flowers. Its dimensions are six feet in height by seven feet in diameter; its weight about twelve hundredweight. We understand Mr. Sander is about erecting a house for its reception, where we suppose it will figure as a *piece de resistance* of the establishment.—H. W.

CŒLOGYNE BARBATA.

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CŒLOGYNE BARBATA.

[Plate 143.]

Native of India: Bhotan, Khasya, &c.

Epiphytal. *Pseudobulbs* oundish-ovate, plump, two-leaved, with brownish lanceolate bracts at their base. *Leaves* narrowed below into a petiole, elliptic-oblong, with a stout costa, plicate, leathery, one and a half-inch wide, and from six inches to a foot long including the petiole, of a lively green. *Peduncles* erect, rigid, springing from between the leaves, terete, terminating in a dense raceme of flowers, below which are several pairs of abortive imbricated pale brown bracts. *Flowers* large, white, with a peculiar sooty or pitchy stain covering the inner side of the lip, breaking out into fine pencillings towards the margin; *sepals* white, oblong-ovate, broadish at the base, narrowed to the acute point; *petals* white, lanceolate acute, broadest at the base; *lip* white, oblong, three-lobed, saccate at the base, fringed with brown-based hairs on the anterior margins, and bearded with hairs entirely dark brown on the three veins of the disk, forming three shaggy crests, the side lobes tinged with pale flesh colour or pink outside. *Column* white, deflexed, bilobed at the end.

Cœlogyne barbata, *Griffith, Itinerary Notes* 72; *Id. Notulæ ad Plantas Asiaticas*, iii., 280, t. 291, fig. 2; *Lindley, Folia Orchidacea, art.* Cœlogyne, No. 21; *Reichenbach fil.*, in *Walpers' Annales Botanices Systematicæ* vi., 229.

Of our present subject Dr. Lindley remarks (*Folia Orchidacea*, l. c.)—"This is, perhaps, the finest of this fine genus. The coriaceous leaves are more than fifteen inches long; the scapes are erect, very stiff, as long as the leaves, and furnished at the apex with an imbricated sheath of bud scales, out of which appears a flexuous raceme four to six inches long, composed of very large blunt deciduous bracts. The flowers are fully two inches and a half in diameter, pure white, except very long hairy fringes which are brown at their base, where they border the lip, and wholly brown where they cover the veins, and form three shaggy crests." The only figure previously published is a very indifferent one of Griffith's quoted above.

In the *Cœlogyne* we now bring to the notice of our readers we have one of the most useful species of a comparatively large genus, and one that blooms during the winter months, when white flowers are sought after. It is one, moreover, the flowers of which stand well when cut. We are indebted to Mr. W. Bull, of Chelsea, for the introduction of this species; which is a free bloomer when the bulbs are strong. It is a plant which possesses many good qualities, being a free grower as well as a free bloomer, and having the advantage of bearing fine evergreen foliage; it will thrive well in the cool house with Odontoglots; and besides all

this, it is a cheap plant, so that everyone having a cool house can procure and grow it without much expense or trouble. Our drawing was taken from a specimen which flowered in the Victoria and Paradise Nurseries.

Cœlogyne barbata is, as we have just said, an evergreen plant, with short pseudobulbs and stout foliage, which grows about a foot long, and is of a lively green colour. The sepals and petals are white; the lip is sepia-brown, distinctly bearded with long fringes of coloured hairs, which give it a very distinct and quaint appearance, the fringe and beard contrasting very strongly with the white sepals and petals. It blooms during the autumn months, and continues flowering for a long time, if the flowers are kept free from damp. The plant should, therefore, be placed at the dry end of the house when in bloom, or be removed to a drier house than that in which it has been grown. We find it to grow well in a pot, if allowed perfect drainage, and planted in rough fibrous peat, allowing it a moderate supply of water during the growing season, but reducing the quantity when the plant is at rest.

There were three very interesting New Orchids exhibited by Sir T. Lawrence, Bart., M.P., at the meeting of the Royal Horticultural Society on April 22nd last, all being remarkably distinct and pretty:—

ANGRÆCUM FASTUOSUM.—The growth of this species is somewhat similar to that of *A. articulatum*, but the leaves are rounder and broader. The spikes are short and drooping, the flowers pure white, sweet-scented, with the lip larger than the petals; very distinct.

ODONTOGLOSSUM CINNAMOMEUM.—A new species, much resembling the true and rare *O. odoratum*. The sepals and petals are, however, broader, and the markings are much denser; the lip is yellow, with a large brownish crimson blotch in the centre, and the margin faintly spotted with the same colour, the whole surface being covered with fine downy hairs; very strongly scented.

DENDROBIUM HARVEYANUM.—This is a great surprise, being in the way of *Dendrobium Brymerianum*, but it has this peculiarity, that the petals are fringed in the same way as the lip, thus practically giving to the flower the appearance of three lips instead of one, although somewhat modified. The flowers are smaller than those of *D. Brymerianum*, but the plant resembles it in growth; and, indeed, it was imported with that species, so that possibly it may be a sport from it, which has become fixed. This plant has been named in honour of E. Harvey, Esq., Riversdale Road, Aigburth, Liverpool, in whose collection it first bloomed.—H. W.

J.Nugent Fitch del.et lith .

CATTLEYA LABIATA PERCIVALIANA.

B.S.Williams Publ[r]

CATTLEYA LABIATA PERCIVALIANA.

[Plate 144.]

Native of Brazil.

Epiphytal. *Stems* erect, club-shaped, becoming furrowed in age, nearly a foot in height, monophyllous, evergreen. *Leaves* oblong-obtuse, leathery, dark green. *Scape* two-flowered, issuing from an oblong sheath. *Flowers* about five inches across, exceedingly handsome, the lip being very richly coloured; *sepals* linear-lanceolate, entire, the dorsal one recurved, of a soft pale magenta-rose; *petals* much larger and longer, broadly ovate-obtuse, the margin slightly wavy, scarcely denticulate, about two and a quarter inches broad, of the same pale rosy hue as the sepals, the mid-rib strongly developed towards the base; *lip* comparatively small, but intensely rich in colour, bluntly keeled at the back towards the base, plane for about half its length, with margins closely folded over the column, rosy at the edge, strongly flushed with crimson and veined with golden yellow; the front lobe roundish-oblong, one and a quarter inch wide, its edges meeting over the throat, the margin being finely but neatly frilled, as also are the sides of the broadly-rounded deeply-emarginate apex; the colour in the expanded portion is a very rich velvety crimson in the central area, passing near the front edge to a band one-fourth of an inch wide of the pale rose of the petals, and continued narrower along the sides, the disk and the sides of the tubulose basal portion flushed with maroon-crimson, everywhere richly veined with deep yellow, giving the appearance of bronzy gold, and having two elevated golden ridges extending to the base. *Column* thick, clavate, white, with a blunt keel at the back, extending nearly to the apex, which has a small inflexed acute appendage lying between the two blunt lobes of the anther bed.

Cattleya labiata Percivaliana, *Reichenbach fil.*, in *Gardeners' Chronicle*, n.s., xvii., 796.

There has been much controversy of late respecting this beautiful *Cattleya*, the true character of the flowers of which will be seen at once from our Plate, our artist having produced a very faithful representation of the richly-coloured blossoms. We have seen the flowers of two successive seasons from the very plant from which our drawing was taken, and have noted that they keep true to character as regards colour, and that in the second year the flowers were larger than in the first, which may be accounted for by the plant having become stronger and better established, the blossoms partaking of the general improvement. It must not, however, be expected that every purchaser will obtain a plant of the same character as that represented in our Plate, as we have seen but few that have proved to be equal to the one we figure. There is an abundant supply of plants imported as *C. Percivaliana*, but they vary greatly in merit—more so in this than in any other *Cattleya* that has come under our notice. Many of the species of *Cattleya* yield

variety both as to the colour and size of their blossoms, though they are generally all good enough to cultivate or to use as decorative plants; but in this particular species or sub-species there are many that prove to be worthless, and unfortunately no one can tell whether individual plants will be good or bad until the flowers expand. The good ones are really valuable, for there is no other *Cattleya* in which the lip and throat are so richly coloured; even in the small-flowered forms there is a portion of this rich colouration to be found on the lip.

Mr. Sander, the importer, has been no doubt deceived, and has suffered great loss through importing a large quantity of plants, of which many have had to be destroyed owing to their not being worth cultivating, since the bad forms cost as much to import as the good ones; while the collectors, when they do not see them in bloom, do not suspect that such inferior forms can exist amongst the good ones. We have seen other fine varieties, but none better than the one we have illustrated, and which we received from the superb collection of R. P. Percival, Esq., of Birkdale, Southport, after whom it is named. We received the flowers two years before we ventured to submit the drawing to our readers, and to vouch for its accuracy. We trust there may prove to be enough of the better forms imported to supply all who may desire to possess the plant in its true character.

Cattleya labiata Percivaliana is, like *labiata* itself, an evergreen plant, with clavate stems, ten inches in height, bearing dark green foliage, much resembling that of *C. Mossiæ*. It is a plant of compact-growing habit, having the sepals and petals suffused with a delicate magenta-rose colour, while the lip is of an intense magenta, margined broadly with pale rosy purple, the throat being deep orange, veined with brownish purple; the flowers have a most peculiar odour, similar to that of *Lælia autumnalis*, by which they can be at once identified. This *Cattleya* blooms during the winter months, at the same time as *C. Trianæ*, and lasts in bloom for two or three weeks.

Mr. Beddoes, the gardener at Birkdale, grows this plant in the same house with *Cattleya Trianæ*, of which Mr. Percival has a remarkably fine collection. The house in which they are grown, is a good-sized one, and is so built and glazed that there is plenty of light admitted. It is also a well ventilated structure, so that plenty of water may be used about the house in their growing season, when the temperature is right both inside and outside the house. This a most important item in the successful cultivation of Orchids, as well as of other plants. Mr. Percival has evidently studied this point, and good results have followed, as will have been seen by those who have had the pleasure of visiting his collection, while those who have not seen it should try to do so, and judge for themselves. We find rough fibrous peat to suit this plant, which must have sufficient drainage, and must be grown fully exposed to light at all times. Mr. Sander informs us that the plants are found growing on rocks in the full sun, so that they are likely to require an abundance of light and a good season of rest.